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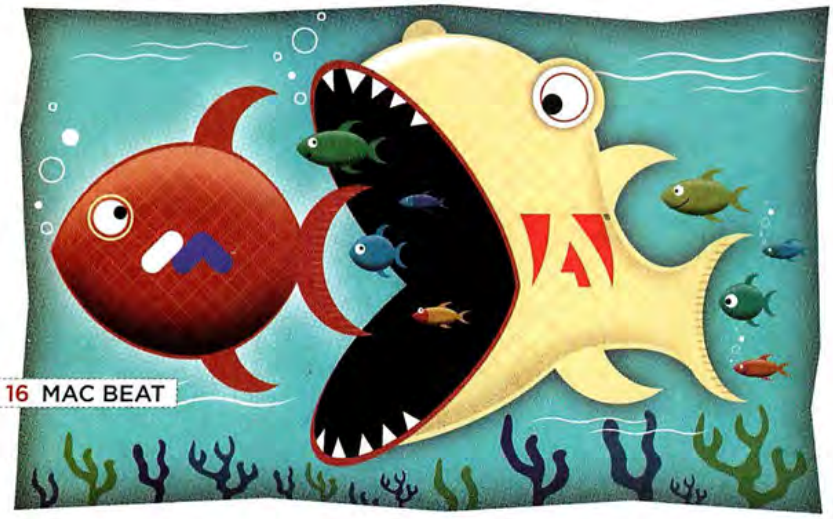

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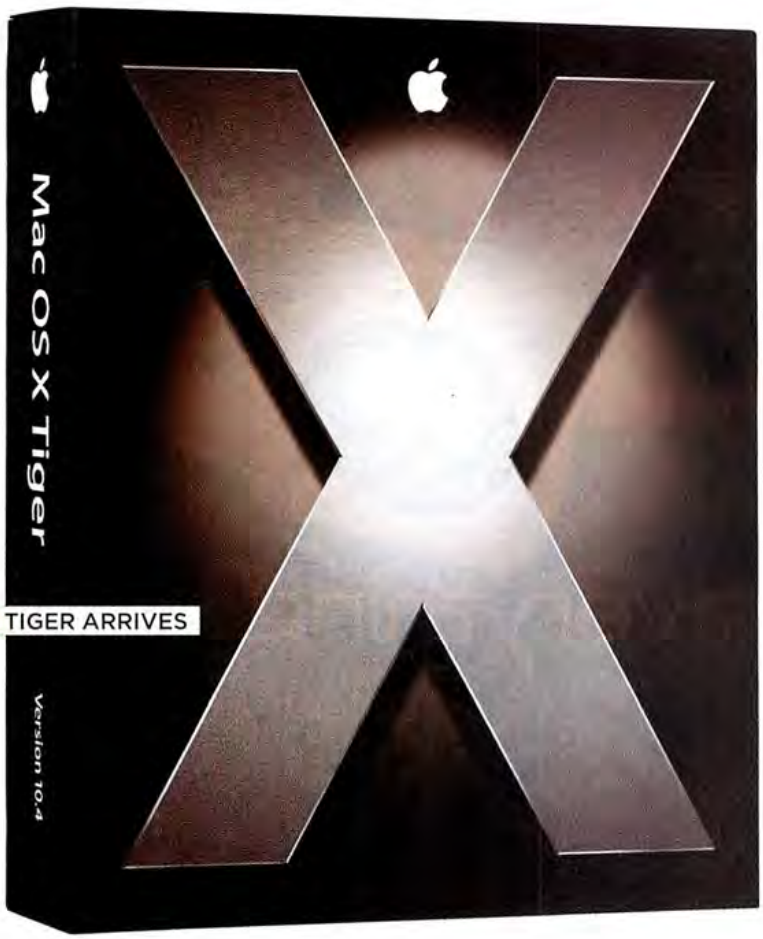
50 Tiger Arrives

Apple's latest operating system, OS X 10.4 (also known as Tiger), is finally here. It has big new features—Spotlight, Dashboard, and Automator—as well as major upgrades to Safari, iChat AV, and Mail. We have in-depth, hands-on evaluations of it all, as well as tips on how to install the new OS and start making the most of it.



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Taking On Tiger

When you start using an upgraded version of a familiar piece of software, the first things you notice are the changes. In those initial sessions, it's hard to tell whether those changes are for the good or not—all you know is that they're *different*. But then, slowly, you begin to form judgments about the new features, to appreciate small touches that originally escaped your notice. This is where I am with Tiger.

Spotlight's Shades of Gray

Spotlight is undeniably cool. It's Tiger's most important feature, and it's miles beyond any of the old search features in the Mac operating system (yes, Sherlock, I'm talking to you).

That's because Spotlight doesn't just search text inside of your files. It also knows about your files' *attributes*—who authored a Microsoft Word file, for instance, or which camera snapped a JPEG. Different apps can define their own descriptors, but Apple is distributing a list of "common attributes" that it'd like programs to share.

I also really like the Smart Folders feature, which Spotlight enables in the Finder. Smart folders have solved one of my own workflow problems: Spotlight can sort through my folder of e-mail attachments to find all the *Macworld* stories I need to read, and it puts them all in one convenient place.

However, Spotlight also has a major limitation: at this point, it works only on a file-by-file basis. It won't find e-mail messages, for example, in programs (such as Entourage) that save messages as individual files. Apple and software vendors need to find a fix for that, so we can truly uncover all the data on our Macs.

Still, I like Spotlight. In a year, I think it will be seen as the most important feature *ever* added to OS X. If you deal with an avalanche of files, be they Word documents, images, or whatever, Spotlight alone will make upgrading to Tiger worthwhile.

Dashboard in Progress

As a paying user of Konfabulator (www.konfabulator.com), I like the idea of small, single-purpose application widgets. And some of Apple's new Dashboard widgets are very useful. The Dictionary widget is perfect, letting me look up a word quickly without launching the new Dictionary application.

However, some of Apple's widgets are not as useful as they could be. The Calendar widget doesn't integrate with Apple's iCal. And the way you add new widgets to your Dashboard—clicking on a rotating *X* symbol at the bottom of the screen to reveal a strip menu of available widgets—is clumsy. As the number of widgets grows, it'll just get clumsier.

Moving widgets off of the Dashboard layer is also awkward. If a widget would work better for me on my desktop, why can't I move it there without resorting to Terminal? (It would have been nice if Apple had let us deploy widgets more flexibly.)

More Feature Favorites

Among my other favorite new features:

Multiuser videoconferencing works surprisingly well in iChat AV 3.0, and group support in the Buddy List window is excellent. But I wish it were easier to start a multiuser videoconference. Right now, you and your friends have to figure out whose Mac is fast enough to host the conference. iChat should do that for you.

Safari 2.0's support for RSS feeds should help bring RSS technology into the mainstream. But putting RSS feeds in a Web-page interface makes me think that Apple missed the point of Web-site syndication. And the new Private Browsing feature fails to wall off Safari's previously stored cookies, so Amazon.com will not only greet you by name, as usual, but also track any pages you visit in a supposedly private session.

Finally, a few words in praise of Automator. It's exciting to see the power of Apple's scripting technologies being placed in the hands of millions of Mac users who will never, *ever* write even a single computer program. Now the impressive automation features of AppleScript are available to the rest of us. That's great news.

Should You Upgrade?

Let's be realistic here: if you're an active Mac user who plans to continue buying new software and hardware on a regular basis, Tiger is a necessity. If you're not planning on buying any major upgrades and your Mac works fine just the way it is, you can probably get away with skipping it. If you're somewhere in between those two groups, Tiger is probably in your future. Once it's been prowling the Mac world for a few months—time enough to shake off the bugs—you'll start to get the itch to upgrade. And you'll be glad you did. □

What do you think of Tiger? Have you upgraded? If so, do you like it? If not, why not? Let me know at macworld.com/0504, or send an e-mail to jason_snell@macworld.com.

PORTRAIT BY PETER BELANGER

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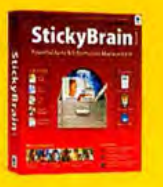

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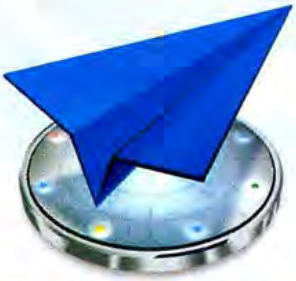

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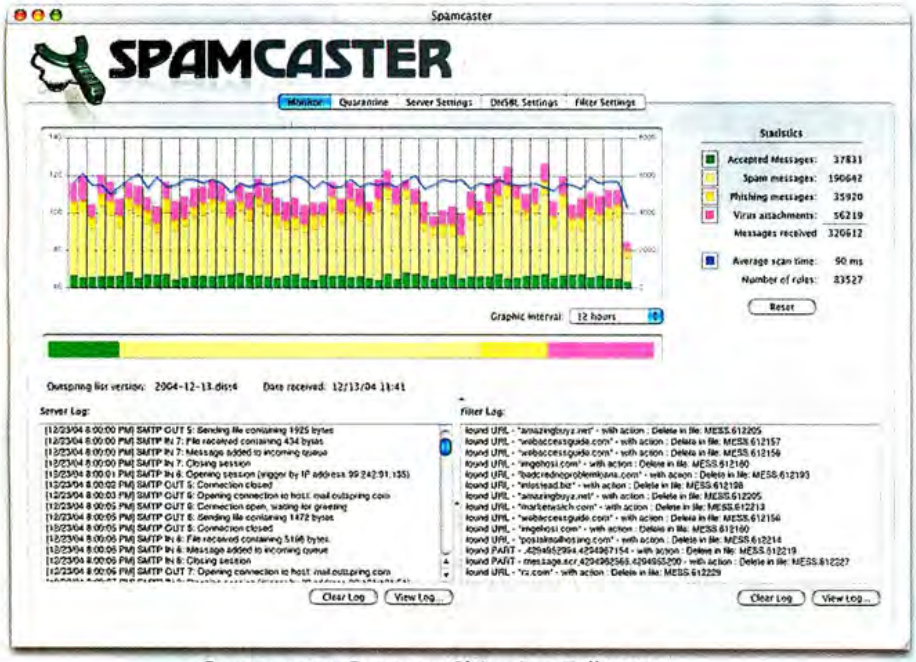

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FEEDBACK

Mini Maximus

Our inboxes continue to overflow with letters about the Mac mini. Of course, that may be because we keep writing about it. Our April cover line—"Mac Mini: The Complete Guide"—was no lie. We had a full review, lab test results, a deep-inside dissection, and answers to FAQs, and we compared the mini with a similarly priced Windows PC from Dell. But not to worry: we hear that Apple has recently come out with another noteworthy new product (see "Tiger Arrives," page 50), so we'll be on a mini hiatus for now. □

Mac Mini versus Dell

TIMOTHY WALKER

I would like to thank Dan Frakes for his fair and balanced comparison of the Mac mini to competing Dell offerings ("Apples and Oranges," *Mac Beat*, April 2005). Healthy competition is good for consumers, and as my Mac-loving fiancée can attest, there's room in the marketplace (and in our home) for both Apple and Dell. Biased punditry serves no one's interests.

BILL HODENA

Though I've loved Apple hardware ever since I touched my first Apple II, I've spent the past five years firmly entrenched in the Wintel world. As a professional software developer, I felt that Windows PCs simply offered me more for my money. But I bought a Mac mini a few days after its release, and I was immediately floored. I loaded up CVS and rdesktop, and picked up BBEdit and a couple of shareware database-development packages; within a week, I was performing half of my development tasks on it. I can now develop, test, and manage applications faster than I ever could on my Windows PCs. I've moved those PCs into the closet. Any technophile worth his or her weight in silicon needs to try a mini.

Dim Mini?

PETER PAULY

I'm surprised that your review of the Mac minis (April 2005) made no mention of the mini's video problems. Apple's own discussion groups are full of angry early adopters who've had problems connecting the mini's DVI-VGA adapter to many CRT monitors. The resulting video output is dim and blurry. This flies in the face of Steve Jobs's keynote statement that the mini will work with any industry-standard monitor.

We've seen those reports, too—but not in time to mention them in our review. We'll continue to look into the issue, but for now check out "Many Answers to Mini Problems" in this month's Mac 911 *column (page 90).—Ed.*

Panoramic Views

JAMES REA, PROVUE DEVELOPMENT

Macworld's recent review of Panorama (♦♦♦½; April 2005) failed to mention the most important difference between Panorama and all other database programs: Panorama is RAM based, not disk based. This means it is thousands of times faster at most operations, offering tremendous productivity gains for tasks as simple as organizing a small office or as complex as analyzing DNA research. This omission is like comparing a 747 with a train but failing to mention that the 747 can fly.

JIM CRANDALL

Thank you for your review of Panorama V. As a fan of Panorama and a user of FileMaker Pro, I choose Panorama for most of my data analysis. Ease of data entry—using Clairvoyance, autodating, Word Caps, and other shortcut tools—is one of the main reasons. Also, for raw analysis, Panorama enables quick and easy mathematical manipulation of data, while FileMaker requires more laborious keystrokes and offers fewer options. Not all databases need to be complex or relational. Panorama excels over FileMaker and Excel for most of my data needs.

JAMES COOK

Let me start by saying that I am a Panorama developer. That disclosure is important because it tells you that I have a vested interest. *Macworld* did not disclose that William Porter, the writer of your review, is a FileMaker developer with a vested interest in FileMaker. That's unfair to your readers and to Panorama. I make my living building database applications. FileMaker certainly has advantages in some respects, but overall I have repeatedly concluded that Panorama is the more powerful of the two for my uses. Because I know Panorama as I do, Mr. Porter's review did not strike me as being written by someone who had really explored its capabilities. If he was seeking FileMaker's way of doing things within Panorama, he wouldn't have found it. They are different products and neither is suitable for every database use.

We received a flood of mail from Panorama users about our review. Even though we gave the program relatively high marks, many of those Panorama fans considered the review unfair. In particular, many of them questioned our choice of William Porter, an independent FileMaker developer, as a reviewer. They felt that his affiliation with a rival program—which we did not disclose—made it impossible for him to be fair to Panorama. While we stand behind Mr. Porter's review and its conclusions, we regret the lack of transparency. It invited some readers to think we had something to hide. To prevent that from happening again, we've added biographies of our reviewers to all major reviews. That way, you'll know exactly whose opinions you're reading.—Ed.

Who Came First?

SEUNGOH RYU, MATH GAME HOUSE

We read your article "Instant Collaboration" (*Geek Factor*, April 2005) with keen interest. But we'd like to note one inaccuracy: you imply that SubEthaEdit is the first of its kind. However, we released version 1.0 of iStorm and iChalk in October 2002, significantly ahead of Hydra (which, after a name change, became SubEthaEdit). At the

time, ours was the first software of its kind utilizing Rendezvous.

You are correct, and we apologize for implying otherwise.—Ed.

Help-Desk Humor

SEAN HAYES

Was that an April Fools' sidebar in your April 2005 *Mac OS X Hints* column? Use Terminal and a series of arcane commands to find the time in distant parts of the world? When I could just go to Worldtimezones.com in my browser? Still, it was a jolly good laugh.

Win Some, Lose Some

DARREN DRAPER

I've been a faithful subscriber to *Macworld* for over three years now and have to tell you that the April 2005 issue tops the list. I normally dog-ear the helpful pages to refer to later, but the dog-earing went out of control this month. Thank you for your helpful advice and excellent reviews. Keep up the good work.

NEY FONSECA

Correct me if I'm wrong, folks, but I understand that your new venture, *Playlist*, came about partially because many readers were frustrated that iPod coverage was crowding out the Mac in *Macworld*. So it's hard to explain the advertising supplement masked as a guide to froufrou accessories for the iPod ("iPod Gear Guide," April 2005). Don't get me wrong—I'm as happy as any long-term Mac person for the success and visibility the little gizmos have given Apple. But enough is enough.

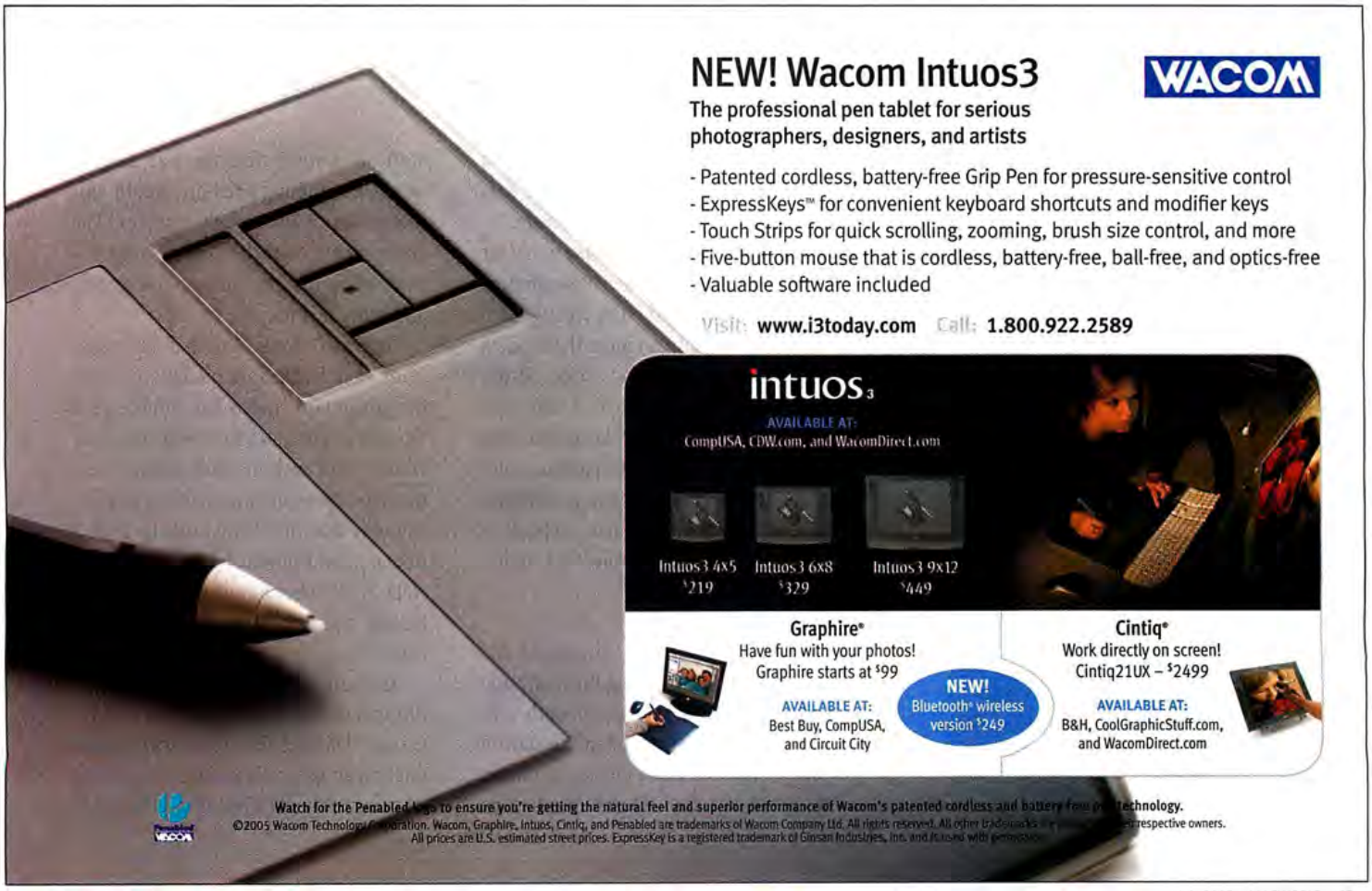
Playlist *magazine is available only on newsstands, and it has a fraction of* Macworld's *readers. The iPod is hugely popular among Mac users, and, more to the point, we actually* added *editorial pages to the April issue: there wasn't less Mac content, there was just additional iPod content. Still, it's called* Macworld, *not* iPodworld, *and always will be.—Ed.*

Better Than Salami

WILLIAM PARTRIDGE

Thanks very much for the magazines you sent. Since I originally posted my request for Apple-related magazines online a year ago, many people have helped out; thanks to *Macworld* for being one of them. I work in a U.S. military camp in Kuwait about 20 miles from the Iraqi border. Supplies are sparse, and it can be difficult to get some things shipped here. But the magazines you and others have sent have gone over very well. A coworker brought a PowerBook back from his last vacation, and I am the proud owner of a new 12-inch iBook; I'm also planning to buy an iMac when I return from Kuwait for good. Thanks again for the magazines. You're awesome!

Post comments on our forums (www.macworld.com); send them by mail to Letters, *Macworld*, 501 Second Street, 5th Floor, San Francisco, CA 94107; or send them by e-mail to letters@macworld.com. Include a return address and daytime phone number. Due to the high volume of mail we receive, we can't respond personally to each letter. We reserve the right to edit all letters and posts. All published letters and forum comments become the property of *Macworld*.



Lights, Camera, Tracking!

FileMaker Pro tames the frenetic world of filmmaking by keeping track of all the moving pieces

SOME THINGS IN THE MOVIEMAKING BUSINESS NEVER CHANGE, including basics like "lights, camera, action!" But today's filmmaking world is an amazingly complex environment in which a typical movie consists of hundreds of individual scenes, and each scene has scores of different components such as lighting, sound, and animation.

Unless all of these thousands of individual components are tracked, cataloged, and filed properly for easy retrieval, production schedules can be blown while project costs soar beyond budget.

Thus it is no surprise that so many film companies today are turning to FileMaker® Pro software. With FileMaker Pro, film companies get the two things they value most from a database solution; namely, a truly user-friendly system that makes storing and accessing information a breeze, and the ability to focus more effort on filmmaking and spend less time keeping track of the process. In fact, FileMaker Pro is the data solution of choice today for more than 100,000 creative professionals, owing to FileMaker Pro's capabilities for handling the kinds of complex files these professionals need to manage.

FileMaker has made it easy to try the award-winning FileMaker Pro solution. Film companies and other creative professional firms are no more than a click away from downloading a free, 30-day trial of FileMaker Pro 7 and the FileMaker Creative Pro Starter Kit. This kit includes ready-to-use database solutions designed for creative professionals and everything they have to track—from digital assets to project schedules.

Genius at work

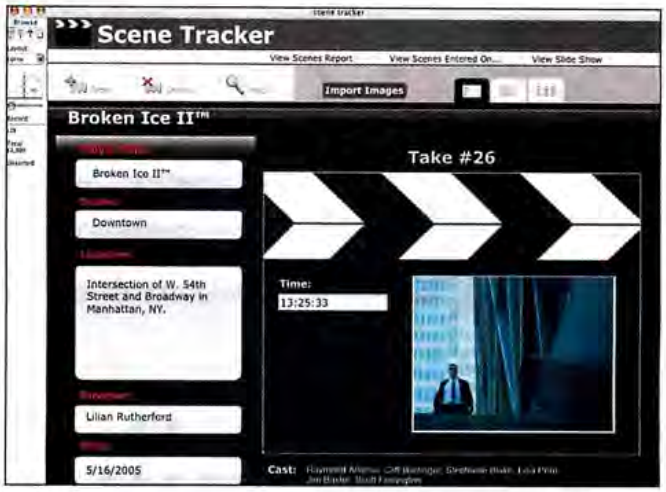
It was the promise of making quick and easy work out of tracking the many and varied pieces of a feature-length animated movie that attracted the staff of *Jimmy Neutron: Boy Genius*, the movie, to FileMaker Pro. As the production staff of *Jimmy Neutron* was all too aware, assembling a feature-length animated film is immensely complex. The components of each scene include the work of animators, background artists, and other technicians.

"It wasn't long ago that animated films were tracked manually on a large hanging board," noted Ben Gilberg, production coordinator for *Jimmy Neutron*. Gilberg said such manual systems were notoriously error-prone and unwieldy. Not only that, but if any workers needed information from the board, they had to walk from wherever they were to the board, wasting valuable production time.

As it turned out, the *Jimmy Neutron* filmmakers were already successfully using FileMaker Pro for tracking production supplies. Extending its use into tracking virtually everything that went

into making this hit movie was a logical move, Gilberg said.

In essence, FileMaker Pro helped the filmmakers achieve a far greater potential by expanding the tracking system exponentially, giving everyone on the production team instant access to any piece of information or file they needed—without team members ever leaving their workspace.



With FileMaker Pro, filmmakers can track individual scenes, as well as the scene's components, such as lighting and sound.

Easy work of complicated tasks

As each *Jimmy Neutron* scene passed through the FileMaker Pro system, production staff could readily call up its location and status, frame length, the names of artists assigned to each shot or scene, and all deadline and schedule information for a particular scene. The staff could immediately recognize any scenes in danger of falling behind schedule and fix the situation before it became a problem.

Their FileMaker Pro solution extended to four databases that made up the production system for *Jimmy Neutron*. These included one for initial storyboards, one to track the assignment of shots and scenes to individual artists, another that followed each shot through the production process, and a fourth that tracked scheduling of all shots and ensured that any required scene changes were made.

For production coordinator Gilberg, a major side benefit of the extensive use of FileMaker Pro is his ability to generate complete and current production reports easily, and then pass them to the production executives on demand. He said, "I can give the executives any answer they need almost before they finish asking for it!"

In addition, Gilberg or any other FileMaker Pro user can rest assured that sensitive client data or production data will be secure. That's because FileMaker Pro 7 makes it easy for users to secure their data, providing maximum protection for the most sensitive files while offering ease of access to less sensitive files that need to be used by various professionals.

FileMaker Pro was created as an inclusive solution, recognizing that film companies and other creative professionals often prefer to use a broad mix of computing technologies, including Apple Macintosh and Microsoft Windows based systems. So FileMaker Pro lets users share files among Windows or Mac OS X users. And, with FileMaker Server, organizations can connect up to 250 users simultaneously to a hosted database to accommodate large teams.

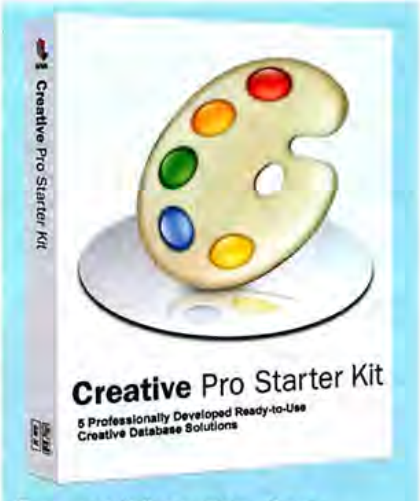
Earning an "A" at B Productions

Virtually everyone has watched television footage of the runway happenings from the dynamic world of fashion and glamour, where the accent is always on glitz. There is a very good chance that the film was produced by B Productions of New York, a film production house that specializes in beauty and fashion industry films. The company's specialty is filming the seasonal Fashion Week runway show epics, capturing the statuesque models as they show off the latest fashions.

The fashion industry is clearly driven by style, and yesterday's styles simply won't do. That was the case at B Productions when it realized the old database solution it had used for invoicing simply was yesterday's news. Production managers at B Productions wanted a modern system whose use could be extended far beyond invoicing, to tracking the myriad components that go into making a film today. This includes tracking projects, scheduling, storing information on the production crew and the clients, as well as other applications.

Since B Productions had been happy with its use of FileMaker Pro to index its tape library, the production managers decided to deploy the solution companywide. Today, B Productions is completely in step with the dynamics of its business, using FileMaker Pro not only for invoicing, but also to manage virtually all key aspects of its complex projects. And because all the individual databases employ FileMaker Pro, communications among different departments through FileMaker Pro is a snap.

Now when the spring and fall fashion seasons dawn, FileMaker Pro is already at work at B Productions, creating master schedules that clearly show where everyone and everything is supposed to be. Not only that, but the B Productions staff can easily export FileMaker Pro data directly into Microsoft Excel for printouts. The bottom line is that thanks to FileMaker Pro, information at B Productions is always in fashion.



For more information about FileMaker Pro or to download a free, 30-day trial copy of FileMaker Pro with the FileMaker Creative Pro Starter Kit, visit www.filemakertrial.com/macworld.

Adobe Swallows Macromedia

Few companies have been a part of the Mac era for as long as Adobe and Macromedia. From Illustrator 88 and Macromind Director to Flash and Creative Suite 2, the two companies have provided the tools that helped establish the Mac as a graphic-design platform. So it's no surprise that Adobe's planned acquisition of Macromedia sent tremors through the Mac design community in April.

BY DAVID SAWYER McFARLAND

If all goes according to plan, come this fall Macromedia will be no more and Adobe will own not only its own stable of graphic-design applications, but also a barrel full of complementary and competitive programs. The $3.4 billion deal will bring an end to the rivalry of these two great companies. Can you say "Adobe Flash?"

What this acquisition means for the future of the two companies is, of course, up in the air. The official line from Adobe is suitably vague and filled with the usual corporate, feel-good, mind-tranquilizing verbiage: "greater synergy," "better workflow," and "broader solution."

Bryan Lamkin, Adobe's senior vice president of digital imaging and video,

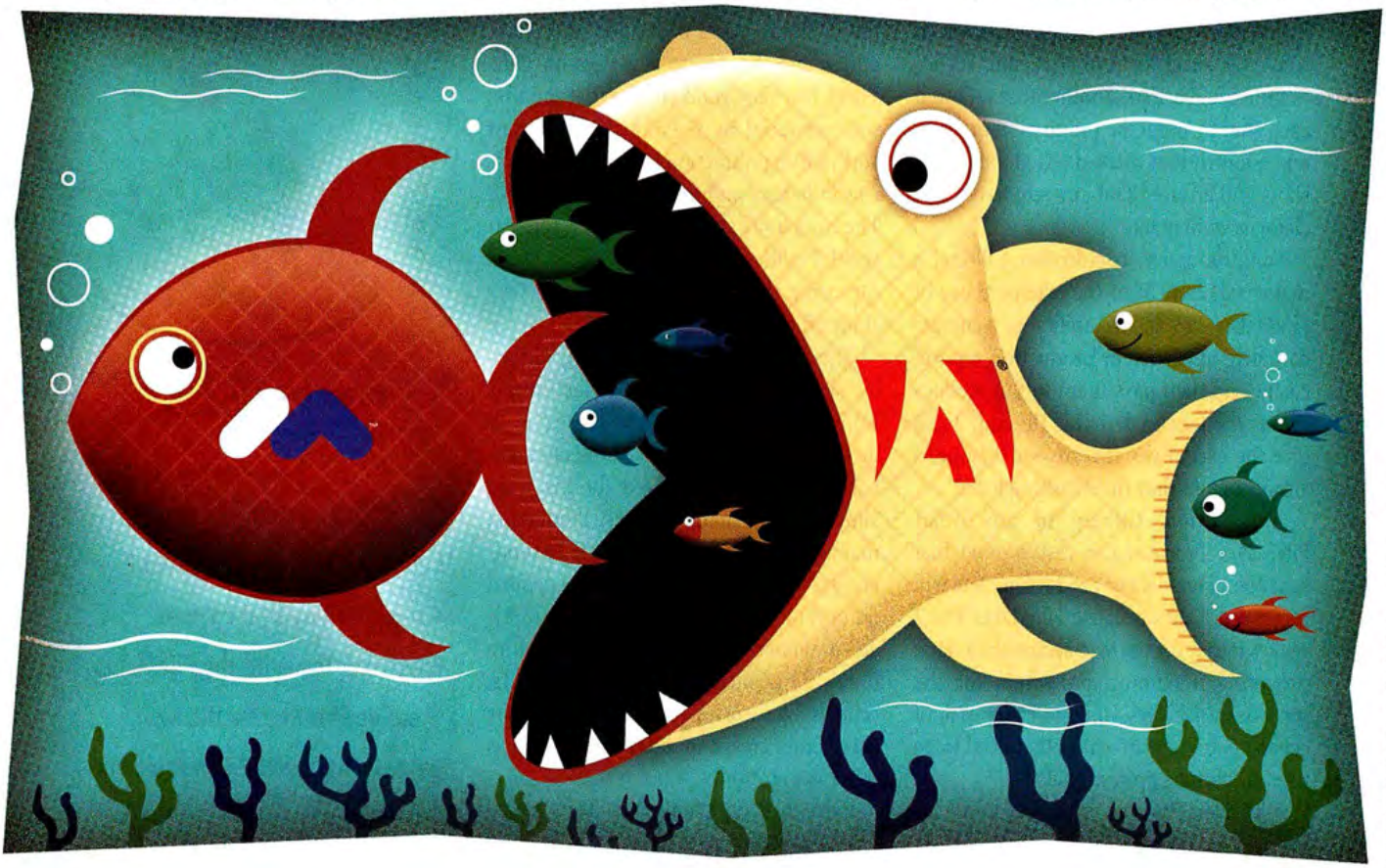


ILLUSTRATION BY JOHN UELAND; PHOTOGRAPH COURTESY OF APPLE

added, "We want to help people communicate better, and that's what Macromedia's focus is as well. The opportunity for Adobe now is how can we bring a better solution to our customers."

TIGER APPLICATIONS

Since Tiger's release, software companies both big and small have been updating their applications to work with Apple's newest version of OS X. *Macworld* is tracking these updates closely and keeping a running list on our Web site. Check out macworld.com/0560 for an up-to-date index.

Big News

From a strategic, corporate, mile-high perspective, the acquisition isn't about capturing the competition or crushing competing programs; it's a move by Adobe to gain ground in the growing market of Internet applications and the delivery of information over the Web. Adobe is a formidable presence in the graphic-arts world—there probably isn't one design department in a Fortune 500 company that doesn't use its products. And the de facto standard for electronic documents, Portable Document Format, is as ubiquitous as the IRS's 1040 forms (which, of course, you can download in PDF from www.irs.gov).

But aside from Adobe's video products, most of its technologies are stuck in "old media" and the static world of print. Adobe has captured that market; it's time to move on. Macromedia, on the other hand, has put most of its resources into dynamic media: Web-design applications (Dreamweaver and Fireworks), online Web-conferencing and presentations (Breeze), server-based Web products (Cold Fusion, JRun, Flex), and, the jewel of the crown, Flash.

Without Flash, Adobe probably would not be interested. But this technology, which started out as nothing more than an animation program, has morphed into a powerful real-time information-delivery tool that can access data across the Web, read from and update databases, act as the front end for complex Web applications, and even run as a desktop program free from the constraints of a Web browser. Most of Macromedia's development and marketing energy over the past few years has been directed toward promoting Flash (in suitable industry jargon) as a "Rich Internet Application," spawning related (and less well-known) technologies such as Flex (an übergeek programming environment for Flash) and Central (a Flash-based desktop tool with similarities to Tiger's Dashboard).

If Adobe is the darling of art departments, Macromedia is the up-and-coming star of the IT set. This is the kind of "synergy" Adobe is alluding to—left and right sides of the brain taking over the universe (or at least trying to hold its own against Microsoft).

But this high-level corporate strategy stuff isn't much consolation to us, the folks who use Photoshop, Fireworks, Director, and other Adobe and Macromedia applications. Newsgroups are abuzz with predictions about the two companies and their products. Users on both sides of the fence are rightfully concerned and wonder what will become of the products they cherish most—especially products like FreeHand and Illustrator, or Dreamweaver and GoLive, which compete head-to-head. It seems unlikely that Adobe would keep two illustration and two Web-design programs alive for long.

Adobe may attempt to integrate features from competing programs, and I've already seen some proposed new names—GoDream, PhotoWorks, or, my favorite name for a hybrid Web- and print-design superprogram: Sortaworks. Alternatively, Adobe may just scrap programs that compete with its own: bye-bye FreeHand. But a deal of this magnitude, which consolidates two powerful competing companies, is subject to regulatory approval. Adobe may be forced to sell off, rather than kill, direct competitors of its products.

Without Flash, Adobe wouldn't be interested in Macromedia.

Despite all the hand wringing, doom saying, and prognostications, it's obviously too early to predict the future—but here's what I see the future holding for these two companies:

All of Macromedia's surviving products will get a face-lift. Adobe's polished user interface will become the standard. This frees Macromedia's programs from a 2002 court decision prohibiting the use of Adobe's patented tabbed palette feature in any Macromedia product.

FreeHand will be discontinued or sold. Illustrator is already top dog, and integrating the code from two different programs is just too much work.

Fireworks will slowly disappear. Photoshop is Adobe's star, and the vector-orientation of Fireworks just doesn't mesh with Photoshop's workflow.

Acrobat Reader will incorporate the Flash player and vice versa. You'll need only one plug-in to view both PDFs and Flash movies. Embedded Flash animations within PDF documents will follow.

Director? Who knows? This once king of multimedia production has been eclipsed by its nimble sibling, Flash.

Dreamweaver or GoLive? This one's a toss-up. Dreamweaver has the dominant market share and (rightly or wrongly) is seen as the more professional of the two programs. But Dreamweaver's core audience isn't the same as the Creative Suite's. The average Web developer in a corporate IT department doesn't use Illustrator and certainly doesn't care about InDesign. So perhaps the two programs will continue to coexist: GoLive for designers; Dreamweaver for programmers.

InDesign will be sold to Quark. No, just kidding about that one.

For consumers of digital-arts software, this consolidation means less competition. There will be one fewer company making software, giving the newly enlarged Adobe that much more dominance in the marketplace and making it difficult for smaller companies to compete. With fewer creative minds tackling the challenge of making truly great design software, and fewer CEOs willing to invest money in producing such software, the result could very well mean less choice for consumers. □

DAVID SAWYER McFARLAND has more than 15 years of experience in the graphic-arts field—with both Adobe and Macromedia products—in desktop publishing, prepress production, magazine design, and Web development.

APPLE UNVEILS UPDATED POWER MAC G5 LINEUP

Speed(ier) Demons

Apple recently refreshed its dual-processor Power Mac line—again. Last June, the top-of-the-line Power Mac saw a speed bump from 2GHz to 2.5GHz. Now the top-end system's processor speed is 2.7GHz (still shy of the 3GHz mark).

Each system comes with OS X 10.4 (Tiger), 512MB of RAM, a bigger hard drive, optional Bluetooth 2.0 support, a 16× double-layer SuperDrive, and other improvements. Prices remain the same as those of the models they replace. (Apple continues to sell the 1.8GHz single-processor Power Mac G5 for $1,499.)

The entry-level and midrange models now come with an ATI Radeon 9600 card, instead of an Nvidia GeForce FX 5200 Ultra card. The 2.7GHz model gains an ATI Radeon 9650 card with 256MB of RAM and supports both a dual-link DVI monitor (such as the 30-inch Apple Cinema HD Display) and a standard DVI display. (Apple also dropped the prices on its 20-inch [by $200] and 23-inch [by $300] displays, to $799 and $1,499, respectively.) Previous Power Mac G5 systems could work with the 30-inch display only with an upgrade to a more-expensive graphics card that blocked the PCI slot next to the AGP video card slot on the motherboard.

These new Power Macs are also the first computers from Apple to include double-layer DVD drives, capable of burning three hours or more of video on a double-layer DVD via iDVD 5.0.1 or later, or DVD Studio Pro 4 (released in May).—PETER COHEN

PRODUCT	PRICE	FRONTSIDE BUS PER PROCESSOR	DDR400 RAM/ MAX RAM	HARD DRIVE	OPTICAL DRIVE	GRAPHICS CARD/RAM	MORE INFORMATION
Power Mac G5/1.8GHz	$1,499	600MHz	256MB/ 4GB	7,200-rpm 80GB Serial ATA	8× SuperDrive	Nvidia GeForce FX 5200 Ultra/64MB	macworld.com/0177
Power Mac G5/dual-2GHz	$1,999	1GHz	512MB/ 4GB	7,200-rpm 160GB Serial ATA	16× double-layer SuperDrive	ATI Radeon 9600/ 128MB	macworld.com/0550
Power Mac G5/ dual-2.3GHz	$2,499	1.15GHz	512MB/ 8GB	7,200-rpm 250GB Serial ATA	16× double-layer SuperDrive	ATI Radeon 9600/ 128MB	macworld.com/0551
Power Mac G5/ dual-2.7GHz	$2,999	1.35GHz	512MB/ 8GB	7,200-rpm 250GB Serial ATA	16× double-layer SuperDrive	ATI Radeon 9650/ 256MB	macworld.com/0552

APPLE SHIPS TIGER SERVER

Industrial-Strength Cat

Although the desktop version of Tiger grabbed all of the attention, Apple also released Mac OS X Tiger Server at the same time. The fifth major release of Apple's server OS relies on new open-source projects to implement many of its new features, including iChat Server and enhancements to its e-mail server.

Tiger Server boasts integration of more than 100 open-source projects and standards-based software applications. Among those is iChat Server, based on Jabber—an open-source instant-messaging technology. iChat Server allows administrators to deploy their own instant messaging within an intranet. It supports SSL/TLS encryption, works with Apple's iChat conferencing software, and is compatible with Jabber clients available for Windows, Linux, and various PDAs.

"Our decision to integrate lots of open-source projects into the server is really starting to pay off," says Eric Zelenka, Apple's senior product line manager for server and storage software. Zelenka points out that most instant messages are not secure or encrypted—a big issue for many companies. iChat Server is designed to integrate into a company's infrastructure.

Another big milestone for Tiger Server is the move to support 64-bit applications. While this won't affect the average user, it's a huge plus for the life-sciences field, which can take advantage of the fact that individual processes and applications can now access more than 4GB of RAM at a time. (Zelenka says 32-bit applications will continue to run just as well.)

Apple also made improvements to the e-mail server—specifically, adding an adaptive junk-mail–filtering system using SpamAssassin and virus protection.

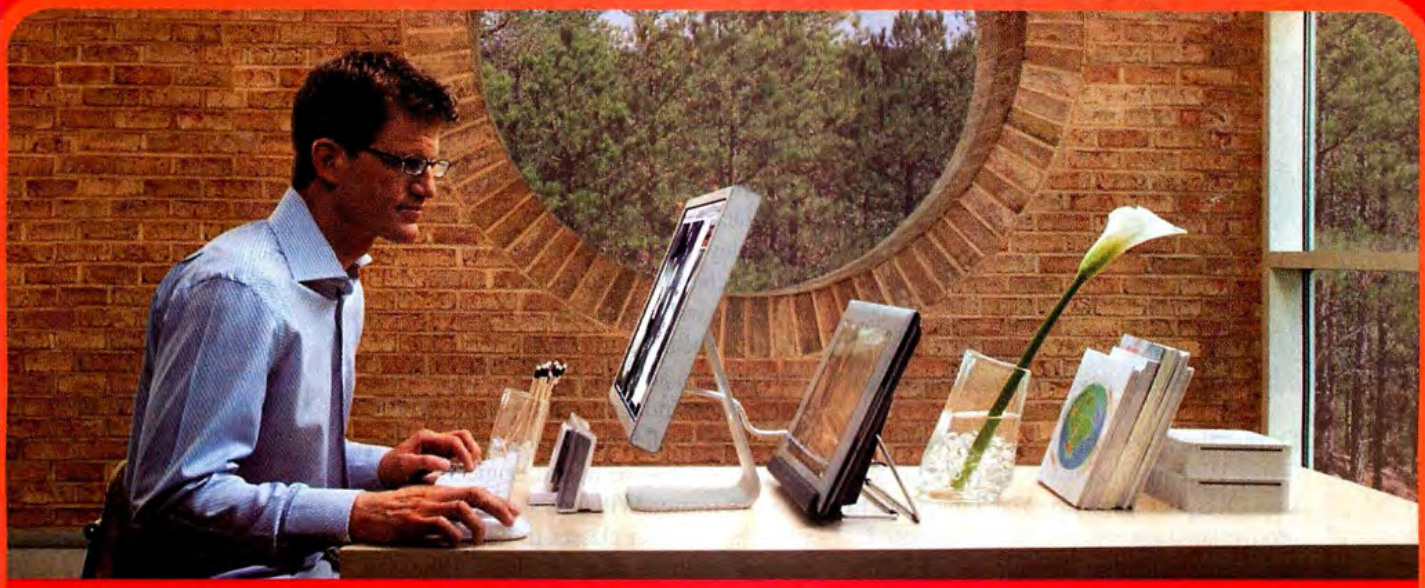
Also new is Weblog Server, which lets users publish and syndicate their Web content using existing Web browsers, including Apple's own Safari.

Tiger Server also touts Xgrid, a distributed computing technology that can turn groups of Macs on a network into a virtual supercomputer. Xgrid assists in assembling nodes, submitting jobs, and retrieving results once data has been processed—ideal for scientific computing, animation and rendering, and digital content creation.

Tiger Server costs $499 for a 10-client edition or $999 for an unlimited-client edition. Subscribers to the Apple Maintenance Program can get Tiger Server for free.—JIM DALRYMPLE

PHOTOGRAPHS COURTESY OF APPLE

The perfect combination of creativity and technology.
(Don't you love it when everything comes together?)



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iPOD-CENTRIC STORE ATTRACTS A CROWD

Shop 'til You Bop

During the 2004 winter-holiday season, Shane Williams dedicated much of his San Luis Obispo, California, MacSuperstore to iPod-related accessories. It was supposed to be temporary, but when he noticed that the heavy foot traffic and brisk sales continued well into 2005, Williams decided to open what might be the country's first stand-alone iPod store next door.

Today, store employee Justin Cooley—the in-store evangelist for iPods and iPod accessories—estimates that the iPod Shop (www.macsuper.com) gets between 50 and 100 visitors (and takes in about $4,000) a day. "People come in here and buy much more quickly than they do in the MacSuperstore," says Cooley.

Cooley says that the store staff tests all the merchandise, and there's a lot to play with: one wall is devoted to iPod models and JBL speakers; another offers FM transmitters, adapter kits for cars, and carrying cases; and a third lets people fiddle with iPod models connected to speakers by Macally, Logitech, and Logic 3.

Store owner Williams says that he's planning to offer classes to help customers optimize their iPods, and the store may even add a CD-ripping service.

iPod users who can't make the trek to California's central coast, take heart. Williams says he's been approached about franchising the store, so stay tuned.—LISA SCHMEISER

APPLE DELIVERS 2GHZ iMAC G5, FASTER eMACS

Consumer Power

For budget-conscious Mac users who may be tired of seeing Apple boost the specs on its Power Mac line, the company also announced an update to its consumer-level iMac G5—which now includes up to a 2GHz G5 processor, built-in AirPort Extreme and Bluetooth 2.0, and Tiger. Apple also updated its eMac desktop computer, increasing the processor speed, RAM, and hard-disk capacity.

In addition to a faster G5 processor, the iMac includes faster graphics, with the ATI Radeon 9600 graphics processor with 128MB of video memory; a new 8× SuperDrive with double-layer support; built-in Gigabit Ethernet; and 512MB of memory across the line.

Updates to Apple's education-targeted eMac include an increase in the speed of its G4 processor, from 1GHz and 1.25GHz to 1.42GHz in both models. The eMacs also receive a boost in standard memory and ATI Radeon 9600 graphics; the high-end model gets a double-layer SuperDrive. And hard-disk capacity in each model doubles, to 80GB and 160GB. The eMac starts at $799 and includes Tiger.—JIM DALRYMPLE

PRODUCT	PRICE	MAX RAM	RAM/ HARD DRIVE	OPTICAL DRIVE	GRAPHICS PROCESSOR/ RAM	MORE INFORMATION
17-inch iMac G5/ 1.8GHz	$1,299	512MB/ 2GB	7,200-rpm 160GB Serial ATA	Combo drive	ATI Radeon 9600/128MB	macworld.com/0553
17-inch iMac G5/ 2GHz	$1,499	512MB/ 2GB	7,200-rpm 160GB Serial ATA	8× double-layer SuperDrive	ATI Radeon 9600/128MB	macworld.com/0554
20-inch iMac G5/ 2GHz	$1,799	512MB/ 2GB	7,200-rpm 250GB Serial ATA	8× double-layer SuperDrive	ATI Radeon 9600/128MB	macworld.com/0555
eMac G4/ 1.42GHz	$799	256MB/ 1GB	80GB Parallel ATA	Combo drive	ATI Radeon 9600/64MB	macworld.com/0556
eMac G4/ 1.42GHz	$999	512MB/ 1GB	160GB Parallel ATA	8× double-layer SuperDrive	ATI Radeon 9600/64MB	macworld.com/0557

MULTIMEDIA BEAT

Graffiti 4, from Boris FX (www.borisfx.com): 2-D– and 3-D–titling software features improved rendering speed; a new Template Mode feature; and Displacement Map, Spiral Blur, and Burnt Film filters ($595; upgrade, $149).

iControl, from M-Audio (www.m-audio.com): USB-based hardware interface for GarageBand 2 features dedicated transport buttons and jog wheel, and eight rotary encoders ($180).

Media 100 sw, from Media 100 (www.media100.com): Software-only version of Media 100 HD editing system features the editing application itself along with full support for all Media 100 codecs (currently available as a free 90-day beta).

Multibridge, from Blackmagic Design (www.blackmagic-design.net): Bidirectional hardware converts audio and video between analog and digital SD or HD signals ($1,995).

Peak Pro 5, from BIAS (www.bias-inc.com): Professional stereo recording, editing, and mastering software offers replication-ready CD burning with ISRC entry, Audio Unit plug-in support in the Vbox graphic-effects routing window, and a new high-resolution Tape Style Scrubbing feature via CoreAudio ($599; upgrade for users who bought before April 1, 2005, $179).

SD Spark, from Digital Voodoo (www.digitalvoodoo.net): Video card designed for uncompressed Standard Definition SDI and analog support on OS X works with Final Cut Pro HD and Power Mac G5 systems ($2,495).

Shake 4, from Apple (www.apple.com): Updated compositing software features 3-D multiplane compositing capabilities, optical flow image processing, and better integration with Final Cut Pro 5 ($2,999; upgrade, $999).

Sorenson Squeeze 4.1, from Sorenson Media (www.sorenson.com): Video-encoding and -compression software adds the ability to set destinations for compressed video files and introduces support for aacPlus audio ($449; upgrade, free).

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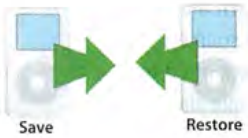
PodLock allows you to create an "invisible" partition. It's like having a secret drive that only you can see by entering your password. You'll want this protection in case you should ever lose your iPod.



Backup and Restore.
PodLock lets you to backup and restore your primary iPod volume to your Macintosh drive (excluding your music files). This is especially useful if you store files for transport on your iPod.

Optimize Data.
By using PodLock's defragment tool, your iPod's drive should run faster. This means songs will load more quickly and data can be retrieved much faster.

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APPLE INTRODUCES NEW FINAL CUT STUDIO

Pro Power

As it has done for the past several years, Apple took the opportunity at April's National Association of Broadcasters (NAB) trade show in Las Vegas to announce big upgrades to its professional video products. Apple launched Final Cut Studio (www.apple.com/finalcutstudio), a suite of updated and new applications designed to give pros a firm grip on the burgeoning HD market. The suite includes upgraded versions of Final Cut Pro, Motion, and DVD Studio Pro, as well as a new application called Soundtrack Pro (all apps are also available separately).

Final Cut Pro 5

Final Cut Pro 5 supports DV, SD, film, and all major HD formats including HDV, DVCPRO HD, and uncompressed HD. Native HDV support—which doesn't require the intermediate codec that iMovie HD and Final Cut Express HD use—is new to Final Cut Pro 5. But the biggest new feature is multicamera support, which allows editors to cut from as many as 128 sources, with simultaneous real-time playback of up to 16 angles at a time. With typical Apple simplicity, an editor can click on camera angles during playback to add them to the timeline—assembling a rough cut in a fraction of the time it used to take.

Also new is Dynamic RT, an intelligent system that automatically adjusts image quality and frame rate during playback. This allows editors to see more real-time effects at the highest possible quality (an improvement over Final Cut Pro 4's RT Extreme, which made editors choose a quality level). Apple has also added new audio capabilities, which enable users to capture as many as 24 simultaneous audio channels at 24 bits and 96kHz, and use audio control surfaces.

Motion 2

First introduced at NAB 2004, Motion 2 is an update to Apple's real-time motion-graphics software. New features to the program include Replicator, an automated design tool that lets editors animate any number of duplicated movies or graphics along user-defined grids and patterns.

Version 2 also includes more than 130 accelerated filters, such as 3D Rotate, Vignette, and Caustics, and more than 50 new particle effects—such as sparkles, bubbles, and space clouds—that automatically generate spectacular animations.

New MIDI support also lets you "play" Motion 2 like a musical instrument, with animation changes triggered by keys, faders, and knobs on a MIDI controller.

DVD Studio Pro 4

Apple's DVD-authoring program, DVD Studio Pro, can now use the H.264 codec in QuickTime 7 to encode and author HD-DVDs from HD content. HD-DVDs use standard media and can be burned using today's DVD burners (Apple's SuperDrive included).

For now, you can play those HD-DVDs only on a Mac via the new DVD Player 4.6 in Tiger; set-top HD-DVD players are expected to debut later this year.

Soundtrack Pro

The new application of the bunch, Soundtrack Pro, takes elements from its namesake, Soundtrack, and from Logic Pro. Soundtrack Pro lets you do full multitrack editing and mixing. It has more than 50 professional effects plug-ins from Logic Pro 7 and more than 1,000 pro-quality sound effects.

Soundtrack Pro also includes useful utilities that fix common problems with audio files. One is Find-and-Fix, which identifies and repairs background noise, pops, clicks, and hum.

Tight integration between Soundtrack Pro and the other apps in Final Cut Studio allows you to seamlessly move between apps for quick audio touch-up and creation. You can also take entire sequences from Final Cut Pro 5 to Soundtrack Pro's multitrack editor for large-scale audio work.—JIM DALRYMPLE

IMAGING BEAT

D50, from Nikon (www.nikonusa.com): Digital SLR camera features a 6.1-megapixel sensor, a 2.5-fps burst mode, and an AF-S DX Zoom-Nikkor 18mm–55mm f3.5–5.6G ED lens ($900).

Sharpener Pro 2.0, from nik multimedia (www.nikmultimedia.com): Plug-in for sharpening digital images in Adobe Photoshop and other image-editing programs adds 16-bit compatibility, a larger preview area, and new tools (Inkjet Edition, $170; Complete Edition, $330).

STORAGE BEAT

CopyCatX 2.5, from SubRosaSoft.com (www.subrosasoft.com): New version of disk-drive cloning software adds a cloning-to-disk-image feature; additional support for iPods, TiVos, and other devices; and OS X 10.4 compatibility ($50; upgrade, free).

G-RAID Pro, from G-Technology (www.g-technology.com): FireWire 800 RAID system provides hardware-based RAID Level 3 support with storage capacities of up to 2TB using five disk-drive modules (prices start at $1,499).

G-SAFE, from G-Technology (www.g-technology.com): FireWire 800 storage system features a hardware-based RAID 1 controller, 7,200-rpm drives with 8MB caches, and capacities of up to 500GB (prices start at $499).

MediaBank HS-R, from Miglia Technology (www.miglia.com): New version of FireWire 800–based storage system includes an Oxford 912–based FireWire 800 interface for increased data rates (prices start at $449).

nRAID, from FireWire Depot (www.fwdepot.com): Network Direct Attach storage server features hardware-based RAID Level 0, 1, 3, or 5 support with a maximum capacity of 2.5TB ($1,499).

Xcaret Pro-99, from MCE Technologies (www.mcetech.com): 100GB expansion-bay hard drive is aimed at bronze-keyboard and Wall Street PowerBook G3s ($279).

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PALMONE UNVEILS LIFEDRIVE

Pocket Computer

As cell phones and iPods become more powerful—new models display photos and can hold contacts, appointments, and files—the traditional PDA runs the risk of becoming obsolete. But Palm One has a good chance of staving off that extinction, with its new LifeDrive ($499; www.palmone.com).

Billed as a "mobile manager," the LifeDrive is loaded with features. It includes both 802.11b Wi-Fi support, for accessing wireless hot spots to surf the Web or check e-mail, and Bluetooth 1.1 connectivity, for dialing a Bluetooth cell phone, sending SMS text messages, performing a HotSync, and more.

The high-resolution color display (320 by 480 pixels) lets you view photos or MPEG-1 and MPEG-4 videos in either landscape or portrait mode, and the Pocket Tunes player lets you listen to MP3 files and create slide shows with music and transitions. And if you have a digital camera that uses Secure Digital or MultiMedia Card memory, you can insert your camera's memory card into the LifeDrive's expansion slot and download images to the device for viewing—thus freeing up space on your memory card.

The LifeDrive's 4GB MicroDrive should also alleviate storage concerns (unfortunately, the automatic file-synchronization feature is Windows-only).

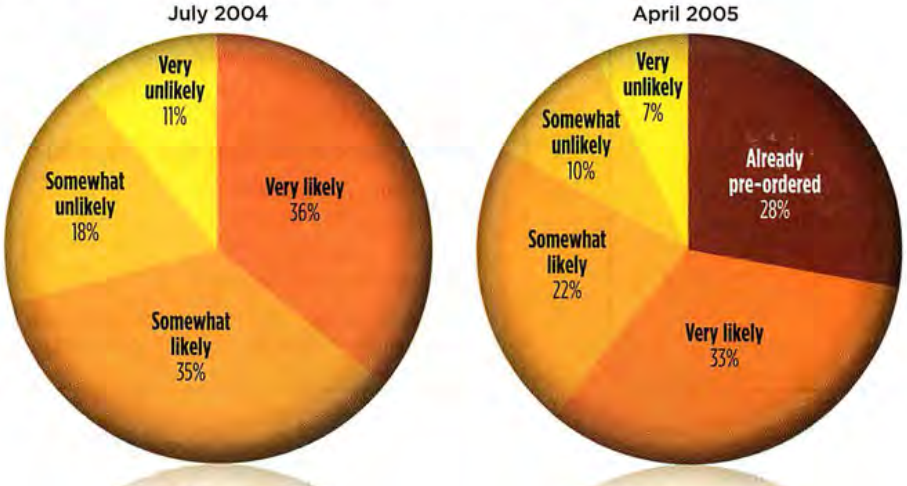
The LifeDrive also includes a full version of DataViz's Documents to Go 7.0 application, which lets you create, view, and edit Microsoft Word, Excel, and PowerPoint documents natively. You can also convert Adobe Acrobat files and view them on its screen.—JONATHAN SEFF

THE READERS SPEAK

Tiger: Ready to Buy?

As Tiger arrived at the end of April, Mac users were eager to pick up the latest OS X update, according to a survey of 1,894 *Macworld* readers. Read the complete results of our Tiger poll at macworld.com/0558.—PHILIP MICHAELS

How likely are you to buy Tiger?



UTILITIES BEAT

iSale 1.6, from Equinux (www.equinux.com): eBay auction-management utility, previously available only as a download, is now available in retail stores through Aspyr Media ($30).

QuickVoice 2.0, from nFinity (www.quick-voice.com): Digital voice-recording software adds Voice Reminders feature and a new Audio Editor ($25; upgrade, $13).

SMS Mac 1.0, from Alco Blom and René Laterveer (www.smsmac.com): Utility lets Mac users send Short Message Service messages to cell phones and other portable devices ($10 annual registration fee plus 10 cents per message).

The Missing Sync for hiptop, from Mark/Space (www.markspace.com): Synchronization utility is designed to sync contacts, calendar events, and to-do–list items between a Mac and T-Mobile Sidekick I and II devices ($30).

Virex 7.6, from McAfee (www.mcafeesecurity.com): Updated virus-protection software for OS X offers businesses centrally managed protection from viruses, using ePolicy Orchestrator software (contact McAfee for pricing).

INPUT-DEVICE BEAT

BT-510, from RadTech (www.radtech.us): Three-button Bluetooth-based wireless mouse features a scroll wheel, 800-dpi resolution, and a USB power cable in case the mouse's batteries drain ($60).

ControllerMate, from OrderedBytes (www.orderedbytes.com): Utility lets OS X users program game pads, trackballs, joysticks, and other game controllers ($10).

Graphire Bluetooth, from Wacom Technology (www.wacom.com): Graphical pen tablet features Bluetooth wireless technology and comes in a 6-by-8-inch size with programmable ExpressKeys ($250).

BEAT ICONS BY PAUL HOWALT

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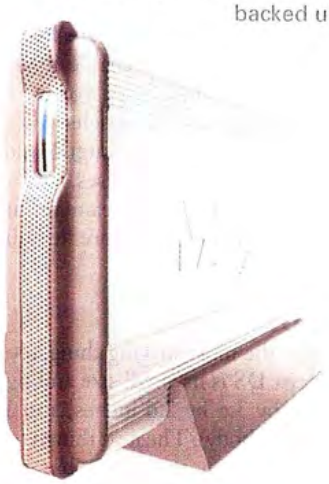

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OUTSTANDING:
VERY GOOD:
GOOD:
FLAWED:
UNACCEPTABLE:

Digital SLR Cameras

Canon EOS Digital Rebel XT Wins Out

BY BEN LONG

Say "digital camera," and most people envision a small point-and-shoot camera or a camera phone. But the discerning photographer has dreams of a digital SLR (D-SLR) camera with interchangeable lenses. Because D-SLRs typically pack bigger image sensors than point-and-shoot cameras, they yield higher-quality results, and their support of lenses provides much more creative freedom.

I took a look at three of the latest D-SLRs available for less than $1,000: the Canon EOS Digital Rebel XT, the Pentax ist DS, and the Olympus Evolt E-300. (A fourth camera, Nikon's D70s, shipped just before we went to press—too late to be included in this review.)

These cameras are ideal for hobbyists and amateurs who want to raise their skill level, for pros who don't need the extra resolution of a more expensive ($3,000 to $10,000) SLR, and for high-end pros who need an affordable backup camera that can work with the lenses they already have.

While these are all good cameras, the Digital Rebel has the edge, thanks to its more developed feature set and slightly superior image quality.

Olympus Evolt E-300 This camera is shorter than a typical removable-lens SLR, but it's wider than the Canon and Pentax cameras.

Olympus Evolt E-300

The $999 Evolt E-300 is a well-built, sturdy 8-megapixel SLR that ships with a 28mm–90mm (in 35mm equivalency) f3.5–f5.6 zoom lens. Though it's not as small or as light as the other two cameras, the E-300 has a nice feel and weight (at 1.4 pounds for the body) and is very comfortable to shoot with, despite its short, squat shape.

The E-300 is packed with a nice assortment of features, including flash-exposure compensation and good tools for setting white balance manually. But the absence of a dedicated status display is frustrating, and so is the camera's poor buffering performance and poor high-ISO performance.

While the Pentax and Canon cameras are built around those companies' existing 35mm lens systems, Olympus has engineered the E-300 and its lenses according to the 4/3 specification, which yields lenses designed to work with digital sensors. On paper, this is a superior approach, but the E-300's images are not significantly better than the competition's. If you opt for Olympus's new lens standard, you'll get a much smaller selection of lenses without gaining a noticeable image-quality advantage. That said, it's worth noting that Olympus has a good selection of lenses, offering a range of focal lengths and a reasonable selection of prime lenses.

The Evolt E-300 is a good camera, and you should take it for a spin before deciding on one of these three models.

Pentax ist DS

At first glance, the most striking thing about the Pentax ist DS is its small size and light weight (4.9 by 3.6 by 2.6 inches, and 1.3 pounds for the body). The next thing you'll notice is that even though it has a 6-megapixel sensor, it's in the same price range ($899 for the body) as the other two cameras here, which have 8-megapixel sensors.

Canon EOS Digital Rebel XT The control layout on the Rebel XT is easy to navigate, but the camera's lack of interlocking buttons raises the risk of accidentally changing settings.

The ist DS has far fewer buttons and dials than the Canon or Olympus cameras, but its simplified control layout provides quick-and-easy access to essential shooting functions.

This camera's viewfinder is larger and brighter than those of its competitors, and it sports an easy-to-read top-mounted status display. These features, combined with the camera's excellent buffering performance and shooting speed, make the ist DS a very comfortable, capable camera to shoot with.

Most cameras provide a slow ISO of 100, but the ist DS starts at 200. Though this is fine for most indoor and daylight situations, the lack of a slower, 100 ISO setting limits your exposure options.

When you shoot in Raw mode, the ist DS yields excellent images, but when you shoot JPEGs, its images mysteriously lose a lot of sharpness. For snapshots or images where a speedy workflow or small files are essential, the ist DS's weak JPEG performance will be a liability.

The ist DS can use Pentax KAF2-, KAF-, and KA-mount lenses, as well as older screw-mount lenses and 67/645 lenses. This makes the camera the best choice if you already have a collection of compatible lenses. For everyone else, the camera's good performance, full

GO TO WEB:

More-detailed reviews of these cameras are available on Macworld.com. For their image-quality ratings, go to macworld.com/0494. For a glossary of digital SLR camera terms, go to macworld.com/0495.

PHOTOGRAPHS BY PETER BELANGER; PHOTO ILLUSTRATION BY TIM DOWNS

feature set, lens selection, and small size make it an important camera to consider.

Canon EOS Digital Rebel XT

The original Digital Rebel (4½; February 2004) used a 6-megapixel sensor; the new EOS Digital Rebel XT packs an 8-megapixel sensor and image quality identical to that of Canon's excellent EOS 20D. In addition to boosting the resolution and adding features, Canon has completely redesigned the body.

The Rebel XT body is available for $899, and a kit bundle, which includes a Canon EF-S 28mm–88mm (in 35mm equivalency) f3.5–f5.6 zoom lens, costs $999.

Like the ist DS, the Rebel XT is very small (5.0 by 3.7 by 2.5 inches) but not too light (1.2 pounds for the body only), providing good heft and balance. The small size is nice, but I prefer the larger girth of the original Rebel, which made for a less cramped hand position.

The Rebel XT has better features and performance than either the Pentax or the Olympus. In addition to nearly instant power-on and wake-from-sleep, the Rebel XT has a very large, well-engineered buffer and a fast burst speed. With its superior buffering, the XT is almost always ready to shoot.

Pentax ist DS The ist DS's simplified control layout provides easy access to essential functions, and its top-mounted status display is a helpful feature.

Essential shooting functions are easily accessible, but the lack of interlocking controls makes it very easy to accidentally change the camera's basic shooting settings.

In addition to a broader feature set, the Rebel XT also wins out in terms of image quality. While all three cameras fare well at ISOs as high as 400, the Rebel XT leaves the competition in the dust when shooting at ISO 800 and higher.

And aside from its compatibility with Canon's EF-S lenses, which are engineered to work with the Rebel's smaller sensor, the Rebel XT can work with Canon's entire line of excellent EF- and L-series lenses.

Macworld's Buying Advice

The good news is that these cameras are all good, and their differences are slight. So if you're looking for a digital SLR for under $1,000, get your hands on all three of these units to see which one feels best to you. Nevertheless, the Canon EOS Digital Rebel XT stands out for its features, performance, design, image quality, and lens selection. □

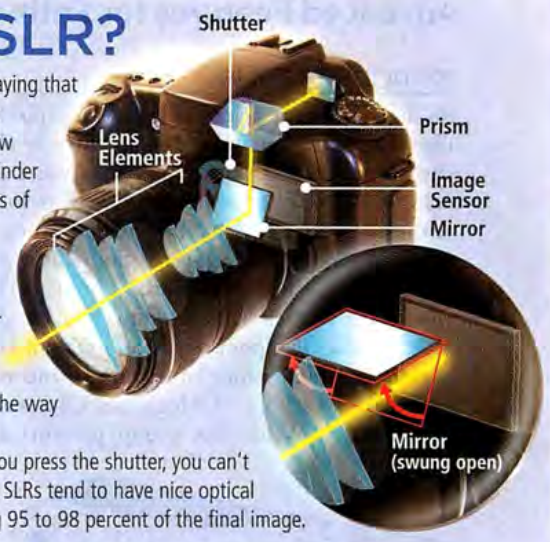
BEN LONG is the author of *Complete Digital Photography*, third edition (Charles River Books, 2004).

What Makes an SLR?

The term *SLR* (single-lens reflex) is just a fancy way of saying that a camera's viewfinder looks through the same lens that exposes the image sensor (or film). SLR viewfinders show more accurately than a point-and-shoot camera's viewfinder what the image sensor will capture, including the effects of any lens attachments.

As in any camera, the lens focuses light through a shutter and an aperture. But in a digital SLR, a mirror placed in front of the focal plane (where the image sensor sits) bounces the light that comes from the lens upward into a prism and then out the eyepiece. When you press the shutter button, the mirror flips up out of the way so the light can pass to the focal plane.

Because light doesn't reach the image sensor until you press the shutter, you can't use the camera's LCD as a viewfinder. Fortunately, most SLRs tend to have nice optical viewfinders that deliver good coverage, usually showing 95 to 98 percent of the final image.



DIGITAL SLR CAMERAS COMPARED

★ = Editors' Choice.

COMPANY	PRODUCT	RATING	PRICE	CONTACT	RESOLUTION	BURST SPEED	STORAGE FORMAT	BATTERIES	PROS	CONS
Canon	EOS Digital Rebel XT ★	4½	body only, $899; kit with EF-S 18mm–55mm[A] f3.5–f5.6 zoom lens, $999	www.canonusa.com	8 megapixels	3.0 fps for as many as 14 frames	CompactFlash	proprietary, includes charger	Excellent image quality; full feature set; speedy performance; good buffer size.	No control interlocks; body a bit too small.
Olympus	Evolt E-300	4	body only, $800; kit with 14mm–45mm[A] f3.5–f5.6 zoom lens, $999	www.olympus.com	8 megapixels	2.5 fps for as many as 4 frames	CompactFlash	proprietary, includes charger	Very good image quality; well-designed controls; sturdy build.	Noisy images at high ISOs; poor buffering; smaller lens selection.
Pentax	ist DS	4	body only, $899	www.pentax.com	6 megapixels	2.8 fps for as many as 8 frames	Secure Digital	four AA or two CR-V3 batteries	Very good image quality when shooting in Raw mode; speedy buffering and file writing; good feature set; well-designed control layout.	Image-quality problems when shooting in JPEG mode; lowest ISO speed is 200.

[A]Lens sizes are absolute, not 35mm equivalency.

5-Megapixel Digital Cameras

Latest Models Offer Bargains for Beginners and Advanced Features for Enthusiasts

BY ROBERT ELLIS

As digital camera prices fall, a 5-megapixel digital camera is becoming a smart entry-level choice for point-and-shooters who want a camera they can grow into, as well as for enthusiasts on a budget. I evaluated a new batch of models in this arena: the Concord 5340z, the Hewlett-Packard Photosmart M417, the Konica Minolta Dimage Z5 and Z20, and the Olympus C-5500 SportZoom. (I also reviewed four other 5-megapixel cameras earlier this year. See "5-Megapixel Cameras Compared.") While this group presents a wide variety of features and quality, the Olympus C-5500 and the two Konica Minolta models stand apart from the crowd.

Hewlett-Packard Photosmart M417

Note that none of these cameras comes with adequate memory or rechargeable batteries. You'll have to add those costs to your budget.

Konica Minolta Dimage Z5

Konica Minolta Dimage Z5

The Konica Minolta Dimage Z5 looks like a contraption from a sci-fi movie. But concealed within its quirky curves is a surprisingly capable camera with an Automatic exposure mode for times when you need quick snapshots, and Program, Aperture Priority, Shutter Priority, and Manual modes for when you want to tweak controls. An electronic viewfinder (EVF) with diopter controls (for adjusting the EVF to your eyesight) makes it easier to shoot in bright sunlight, and the menus are easy to read and navigate. A live histogram helps you adjust exposure compensation.

This camera's 12× optical zoom is the standout in this group; it can focus to an intimate 0.4 inches in Super Macro mode. The Z5 is the only model in this group that offers still-image stabilization, so you'll get sharp images even at slower shutter speeds. The Z5's Predictive Focus Control feature anticipates where a moving subject will be when you press the shutter-release button.

The color and detail in images from the Dimage Z5 are very good, with accurate, saturated tones. But while the Z5's ISO ranges from 50 to 320, noise becomes a problem above 100 ISO. And it can shoot only JPEG images; there should be a TIFF option in a camera of this caliber.

The Z5 is no slouch when it comes to shooting video, continuously capturing VGA-

continues

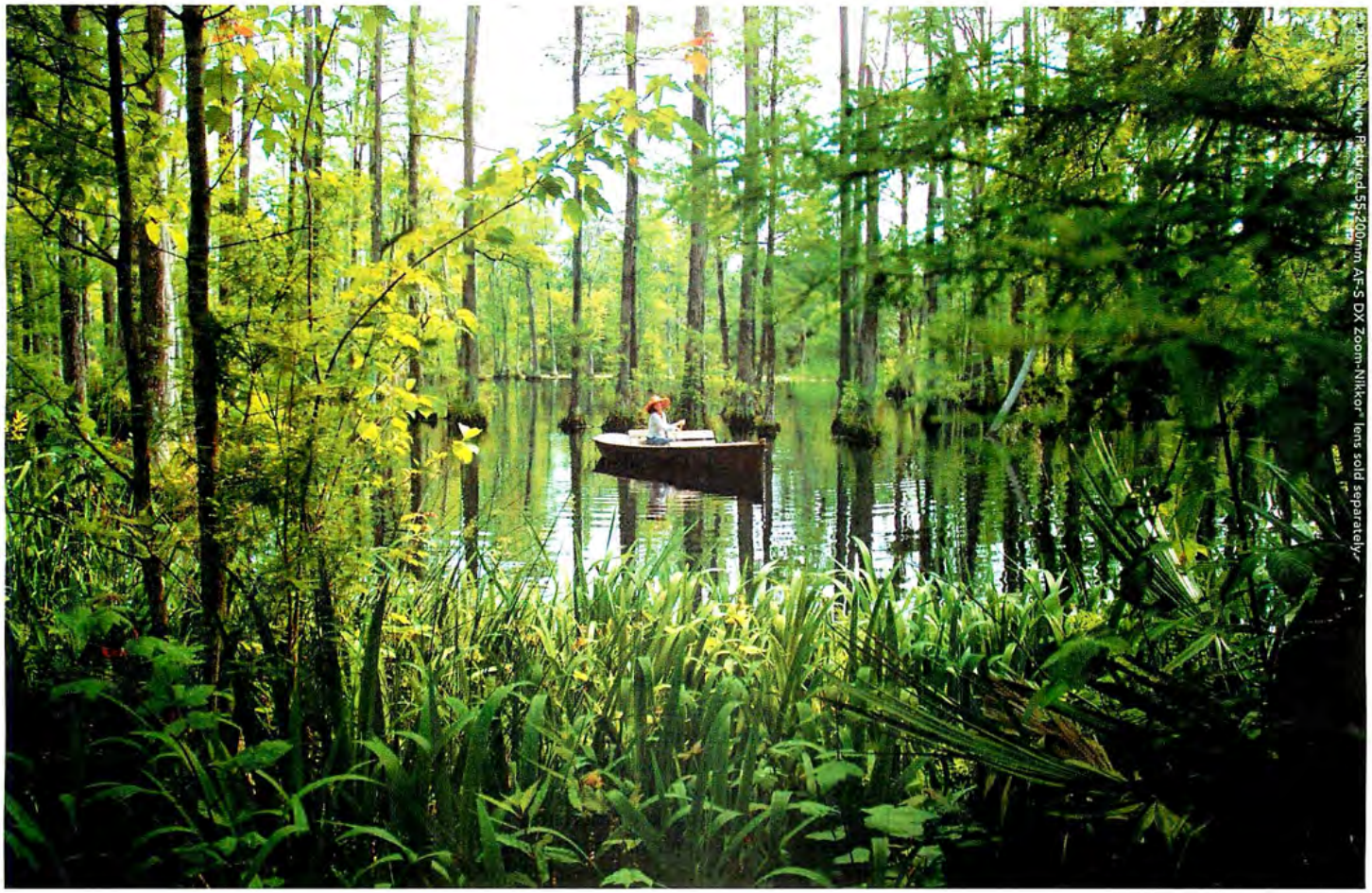
5-MEGAPIXEL CAMERAS COMPARED

★ = Editors' Choice.

COMPANY	PRODUCT	RATING	PRICE	CONTACT	ZOOM (35MM EQUIVALENT)	MAXIMUM APERTURE	DIMENSIONS[A]	PROS	CONS
Concord	5340z	●●½	$200	www.concord-camera.com	3.0× optical (35mm–103mm)	f2.65–f5.0	3.6 × 1.2 × 2.4	Low per-megapixel price.	Flawed color and detail; noisy pictures; poor video quality.
Hewlett-Packard	Photosmart M417	●●●	$200	www.hp.com	3.0× optical (36mm–108mm)	f2.8–f4.8	4.2 × 2.1 × 1.4	Low per-megapixel price; help features; very good color.	Soft pictures; noise in images; poor video quality.
Konica Minolta	Dimage Z5 ★	●●●●	$500	www.konicaminolta.com	12.0× optical (35mm–420mm)	f2.8–f4.5	4.3 × 3.1 × 3.3	Very good image quality; Anti-Shake feature; 12× optical zoom; great macro mode; electronic viewfinder; live histogram; very good video quality.	Noisy images above 100 ISO; no TIFF or Raw support (JPEG only).
Konica Minolta	Dimage Z20	●●●½	$350	www.konicaminolta.com	8.0× optical (36mm–290mm)	f3.2–3.4	4.3 × 3.2 × 3.7	Very good image quality; 8× optical zoom; great macro mode; electronic viewfinder; live histogram; fast startup.	Small LCD; images slightly dark and noisy; movie mode lacks audio.
Olympus	C-5500 SportZoom	●●●½	$350	www.olympus.com	5.0× optical (38mm–190mm)	f2.8–f4.8	4.9 × 3.3 × 3.9	5× optical zoom; live histogram; helpful exposure warnings; autofocus illuminator; Area AF mode; anti-shake feature for video.	Awkward flash location; video is only 320 by 240 pixels; requires more-expensive xD-Picture Cards.
PREVIOUSLY REVIEWED									
Casio	Exilim Z55	●●●	$350	www.casio.com	3.0× optical (35mm–105mm)	f2.6–f4.8	3.4 × 2.3 × 0.9	For the full review, go to macworld.com/0512.	
Epson	L-500V	●●●½	$300	www.epson.com	3.0× optical (34mm–102mm)	f2.8–f4.9	3.6 × 2.5 × 1.3	For the full review, go to macworld.com/0282.	
Pentax	Optio S5i	●●●	$300	www.pentax.com	3.0× optical (36mm–107mm)	f2.6–f4.8	3.3 × 2.0 × 0.8	For the full review, go to macworld.com/0511.	
Pentax	OptioX	●●●	$400	www.pentax.com	3.0× optical (36mm–107mm)	f2.6–f4.8	4.4 × 2.1 × 0.7	For the full review, go to macworld.com/0248.	

[A]Dimensions in inches, width × height × depth.

PHOTOGRAPHS BY PETER BELANGER



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The New D50 Digital SLR

Nikon

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- Macworld

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Olympus C-5500 SportZoom

quality movies (640 by 480 pixels, the highest resolution you'll find in a camera of this type) at a smooth 30 frames per second until your memory card is full. The Silent Cam feature minimizes lens noise when you zoom, Night Movie lets you shoot video in low light, and Anti-Shake smoothes out the jitters. If you want to take great pictures *and* capture decent video, then this is the only camera you should consider in this group.

Konica Minolta Dimage Z20

The Dimage Z20 has much in common with the Z5—Automatic and Manual exposure modes, an EVF, a live histogram, Predictive Focus Control, an extraclose macro mode—but there are also some key differences.

For one, forget about shooting movies—you can capture video, but it won't include audio. And the 1.5-inch LCD is tiny by comparison. The menus are easy to navigate, but the controller buttons clack and feel a little bit cheap. Overall, though, the camera seems relatively solid.

The Z20's 8× optical zoom lens is a bit slow at the wide end with a maximum aperture of f3.2, but that jumps to only f3.4 when zoomed in (the other cameras in this group have maximum apertures of f4.5 to f5.0 at the long end, requiring that you shoot in brighter light). Like the Z5, the Z20 can focus to an impressive 0.4 inches in macro mode.

The Z20 starts up almost instantaneously. A continuous mode captures three frames at the highest quality in about as many seconds, and a Progressive Capture mode snaps a picture every 1.5 seconds for as long as you hold the shutter (but only at Standard quality), then records the last six images to memory.

Colors were accurate and detail was very good, but images looked slightly underexposed, and noise was evident above 100 ISO. I also noticed some purple fringing around high-contrast edges.

Konica Minolta Dimage Z20

Concord 5340z

The Concord 5340z is a point-and-shoot camera that offers plenty of pixels per dollar, but its poor performance keeps it from being a good value.

It's easy to read and navigate the camera's menus on the 2-inch LCD, but there's no way to adjust the LCD's brightness, which can be a problem when shooting in sunlight.

The 5340z's performance is a bit sluggish, with a startup time of about 4 seconds. A burst mode captures a picture every couple of seconds (up to three images), but only at resolutions of 1,600 by 1,200 or 640 by 480, not at 5 megapixels.

The colors this camera produces look slightly off, and images are a bit soft, especially around the edges. Even with ISO fixed at 70, noise is still very noticeable.

Concord 5340z

The 5340z's movie mode captures Windows Media Format (ASF) movies. I couldn't get the files to play in Windows Media Player for Mac OS X, but when I played them in VLC (a freeware media player), the clips were rife with muddy video and whining audio.

HP Photosmart M417

The HP Photosmart M417 vies with the Concord 5340z for pixel-per-dollar value. The 1.8-inch LCD is bright and menus are easy to navigate. And operating the Photosmart is quite easy, thanks to a built-in help system. It's almost like having the user manual inside the camera.

There's no manual mode, but you can adjust white balance, ISO, and exposure compensation. You tweak exposure compensation via a menu—however, the menu covers much of the image, so it's difficult to make adjustments.

Startup time is about three seconds, and the M417's shutter lag is noticeable (about a second). A burst mode can take two shots per second (as many as four pictures)—faster than the Concord 5340z.

Images from the M417 have accurate colors but appear soft and lack detail. The ISO ranges from 100 to 400, and noise is

continues on page 34

PHOTOGRAPHS BY PETER BELANGER

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DLO iBoom pictured with optional DLO BoomBag
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Top Products

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MINIDV CAMCORDERS

Optura 40 ($999), from Canon (www.canon.com):
The Optura 40 produces excellent video and respectable still photos, supports a true 16:9 mode, smoothes the effects of a shaky grip, and is easy to use (November 2004; macworld.com/0130).

DCR-PC109 ($899), from Sony (www.sony.com):
This camcorder requires a docking station but has excellent image stabilization. It also has a spot-focus feature, headphone and mike jacks, and a hot-shoe (November 2004; macworld.com/0130).

FIREWIRE HARD DRIVES

PORTABLE HARD DRIVE

G-Drive mini ($299), from G-Technology (www.g-technology.com):
This fast drive really complements the design of a Power Mac G5 and offers great performance. And it had the fastest speeds in all but one of our tests (macworld.com/0314).

DESKTOP HARD DRIVE

Mercury Elite 800 Pro ($450), from OWC (www.macsales.com):
The Elite 800 Pro is a great performer but doesn't have great design details (macworld.com/0580).

DIGITAL SLR CAMERA

EOS Digital Rebel XT (body only, $899; with EF-S 18mm–55mm f3.5–f5.6 zoom lens, $999), from Canon (www.canon.com):
Canon defined this market with the original Rebel, and it keeps its lead with the XT. Though the lack of control interlocks is a dunderheaded oversight, the camera's feature set, image quality, and price, combined with the vast assortment of Canon mount lenses, make the Rebel XT the best choice so far in the sub-$1,000 digital SLR market (page 26; macworld.com/0535).

MACS

DESKTOP

Product	Processor	Display	Rating	More Information	Best Price[A]	Speedmark Score[B]
iMac	G5/1.6GHz	17 inches	★★★★	macworld.com/0172	$989	150
	G5/1.8GHz	17 inches	★★★★	macworld.com/0173	$1,249	162
	G5/1.8GHz	20 inches	★★★★½	macworld.com/0174	$1,499	163
eMac	G4/1.25GHz (Combo drive)	17 inches	★★★★½	macworld.com/0167	$730	129
	G4/1.25GHz (SuperDrive)	17 inches	★★★★½	macworld.com/0168	$799	129
Mac mini	G4/1.25GHz	not included	★★★★	macworld.com/0316	$479	117
	G4/1.42GHz	not included	★★★★	macworld.com/0321	$535	123
Power Mac	G5/1.8GHz	not included	★★★	macworld.com/0177	$1,400	165
	G5/dual-1.8GHz	not included	★★★★	macworld.com/0158	$1,557	194
	G5/dual-2GHz	not included	★★★½	macworld.com/0157	$1,895	212
	G5/dual-2.5GHz	not included	★★★★½	macworld.com/0156	$2,421	237

PORTABLE

Product	Processor	Display	Rating	More Information	Best Price[A]	Speedmark Score[B]
iBook	G4/1.2GHz	12 inches	★★★★½	macworld.com/0178	$969	106
	G4/1.33GHz (Combo drive)	14 inches	not rated	macworld.com/0179	$1,235	not tested
	G4/1.33GHz (SuperDrive)	14 inches	★★★★	macworld.com/0180	$1,379	116
PowerBook	G4/1.5GHz (Combo drive)	12 inches	★★★★	macworld.com/0398	$1,427	not tested
	G4/1.5GHz (SuperDrive)	12 inches	★★★★	macworld.com/0399	$1,626	136
	G4/1.5GHz	15 inches	★★★★	macworld.com/0400	$1,740	136
	G4/1.67GHz	15 inches	★★★★	macworld.com/0401	$2,095	142
	G4/1.67GHz	17 inches	★★★★	macworld.com/0402	$2,319	148

[A]From a PriceGrabber survey of retailers as of May 18, 2005. [B]Speedmark 3.3 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.3 (Panther). For information on Speedmark testing, go to www.macworld.com/speedmark.

DUAL-LAYER DVD BURNER

d2 DVD± RW 16× FireWire, with Double Layer ($189), from LaCie (www.lacie.com):
This DVD burner can burn 8.5GB of data to dual-layer DVDs. Although it has a relatively slow read speed, its performance is very good overall. Its excellent Mac compatibility includes OS X and iLife support, and it comes with the full version of Roxio's Toast Titanium (April 2005; macworld.com/0313).

COLOR LASER PRINTER

LaserJet 2550Ln ($600), from Hewlett-Packard (www.hp.com):
This inexpensive, network-able color laser printer offers crisp text and very good color fidelity, and it supports Apple's Bonjour (formerly Rendezvous) technology. But its paper capacity is only 125 sheets, so you might consider paying the extra $100 for the optional 150-sheet paper tray (macworld.com/0083).

LCD MONITOR

21-INCH DISPLAY

321 LCD Monitor ($1,599), from LaCie (www.lacie.com):

LaCie takes one of the best LCDs available and improves on it. This is a bright, beautiful LCD aimed at professionals who are willing to pay the price for accurate color. It has 10-bit color and optional hardware calibration (macworld.com/0384).

ALSO RECOMMENDED:

23-INCH DISPLAY

Hewlett-Packard L2335 ($1,599), from Hewlett-Packard (www.hp.com); March 2005; macworld.com/0278

COLOR INK-JET PRINTERS

Photosmart 8450 ($250), from Hewlett-Packard (www.hp.com):

This networkable ink-jet printer uses eight inks to print excellent-looking photos (macworld.com/0280).

ALSO RECOMMENDED:

Stylus Photo R800 ($399), from Epson (www.epson.com); January 2005; macworld.com/0246

Pixma iP8500 ($350), from Canon (www.canon.com); February 2005; macworld.com/0275

FLATBED SCANNERS

MIDRANGE SCANNER

CanoScan 9950F ($400), from Canon (www.canon.com):

This CanoScan raises the bar for midrange scanners by offering high optical resolution, improved scan quality, and more-intuitive software controls (macworld.com/0188).

LOW-END SCANNER

CanoScan 8400F ($150), from Canon (www.canon.com):

The 8400F has limited film and transparency support but is a great all-around scanner with some high-end features and a low-end price (macworld.com/0187).

NEW: DIGITAL CAMERA

5-MEGAPIXEL CAMERA

Dimage Z5 ($649), from Konica Minolta (www.konicaminolta.com):

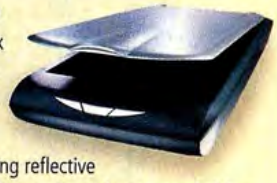
This camera takes great pictures. It has a 12× zoom lens and image stabilization; an Automatic mode for snapshots; and Program, Aperture Priority, Shutter Priority, and Manual exposure modes. If you like macro photography or want to capture decent video, this camera will suit you (page 28; macworld.com/0534).

Top Products are those we've recently reviewed in a comparison of like products. As new products become available, we will update the list. For longer reviews of these products and for other product recommendations, go to www.macworld.com/reviews.

IN THE MACWORLD LAB

Hardware Products We Tested This Month

FLATBED SCANNER



Astra 6700 ($150), from Umax (www.umax.com):

This 2,400-dpi scanner does a good job of scanning reflective media (photos and magazines), but scans of slides, using the included transparency adapter, were noisy. It offers Mac compatibility by including a light version (SE) of SilverFast 6, which works well but limits high-bit scanning options (macworld.com/0528).

DVD BURNER

D2 DVD±RW with LightScribe 16× ($199), from LaCie (www.lacie.com):

This is the first DVD burner available for the Mac that uses LightScribe technology to write labels (images and text) onto the top of special LightScribe discs. It will also burn dual-layer DVDs, but not as quickly as the 16× FireWire version without LightScribe (macworld.com/0529).

PORTABLE FIREWIRE HARD DRIVE

100GB Surefire 800 ($375), from Kano Technologies (www.kanotechnologies.com):

This moderately priced, bus-powered drive isn't the fastest, but it features a triple interface consisting of FireWire 800, FireWire 400, and USB 2.0. It also has lots of storage capacity. It's bootable via FireWire in OS X (macworld.com/0314).

PORTABLE FIREWIRE HARD DRIVE

100GB On-The-Go 5400rpm 8MB Cache ($300), from OWC (www.macsales.com):

This drive trades speed (it runs at 5,400 rpm, instead of 7,200 rpm) for a great price per gigabyte and lots of storage capacity in such a small drive. It also lacks FireWire 800 ports (macworld.com/0314).

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5-Megapixel Digital Cameras
continued from page 30

noticeable even at 100 ISO. I also noticed some fringing around high-contrast areas. The M417's video is disappointing, at 288 by 216 pixels.

Olympus C-5500 SportZoom

Like the Dimage Z5 and the Z20, the Olympus C-5500 SportZoom offers an Automatic mode, as well as Program, Aperture Priority, Shutter Priority, and Manual modes to satisfy the enthusiast. Then it goes even further, with a My Mode option that lets you access any of four sets of user-defined custom settings.

The C-5500 has a solid feel, and an oversize grip makes the camera comfortable to hold, but the flash is located on the top left, leaving no comfortable place for your left hand when the flash is open. The generous 2-inch LCD has menus that are easy to navigate. A live histogram helps you adjust exposure, and you can opt to display over- and underexposed areas directly on the image.

The 5× optical zoom doesn't seem to live up to its SportZoom appellation. Its top shutter speed is $^1/_{1,500}$ of a second. The Dimage Z20 offers an 8× zoom for the same price, and most of the cameras in this group have top shutter speeds of $^1/_{2,000}$ of a second, which is better for freezing sports action. But the C-5500's impressive sequential shooting mode can take as many as five pictures every 1.2 seconds.

The C-5500 has an autofocus illuminator to assist with focusing in low light, and an Area Autofocus (AF) mode lets you target any of 143 zones, so you can keep your subject in focus wherever it is in the frame.

The camera produces accurate and saturated colors, and sharp though slightly underexposed images. ISO ranges from 80 to 400; noise becomes apparent at 200 ISO. I also noticed mild purple fringing.

The C-5500 requires xD-Picture Cards. A 512MB xD card will set you back about $70, compared with about $50 for an SD card.

Macworld's Buying Advice

The Konica Minolta Dimage Z5 takes very good pictures, especially at lower ISOs. Add a 12× optical zoom, its Super Macro mode, the Anti-Shake feature, and great movie quality, and the Z5 is the best of this bunch. In the middle of the price range, both the Konica Minolta Dimage Z20 and the Olympus C-5500 SportZoom are good choices. □

ROBERT ELLIS is a photography enthusiast with a growing collection of digital cameras, and he is a frequent contributor to *Macworld*. He publishes a blog at www.futurosity.com.

GO TO WEB:

More-detailed reviews of these cameras are available on Macworld.com. For their image-quality ratings, go to macworld.com/0403.

More Reviews

For complete reviews of the products listed here, visit www.macworld.com/reviews.

Drive Genius 1.0.1 ($99), from Prosoft Engineering (www.prosofteng.com): Excellent maintenance and management tools that let you quickly and efficiently optimize, repair, and rebuild a hard drive characterize this program. With Drive Genius, Prosoft has raised the standard for disk utilities. Drive Genius's ability to initialize and repartition your devices while volumes are being repaired and defragmented is welcome (macworld.com/0525).

EyeTV Wonder USB 2.0 ▲ ($149), from Elgato Systems (www.elgato.com): This device can schedule and record broadcast TV, but it doesn't compress the files, so you'll need a dual-processor Mac and lots of storage space. If you just want to watch TV on your Mac, the EyeTV Wonder USB 2.0 is terrific. But for scheduling and recording, consider the higher-priced EyeTV 200 or the midpriced Plextor ConvertX (macworld.com/0523).

Guest PC 1.2 ▲ ($70), from Lismore Software Systems (www.lismoresystems.com): Like Microsoft's Virtual PC, Guest PC lets you run a virtual Windows computer on your Mac. Guest PC lags in polish and performance, but if you need an inexpensive way to run the occasional Windows program (and you already own Windows), Guest PC will do a passable job (macworld.com/0522).

IntelliScanner Express ($249), from Intelli Innovations (www.intellisw.com): This bar-code-scanner and software combo is especially useful for online auctioneers, wine collectors, and people who want to inventory their home or business assets. However, considering that a bar-code scanner alone costs about $100, this package is rather expensive (macworld.com/0524).

C-7070 Wide Zoom ($600), from Olympus (www.olympus.com): With its wide-angle lens, abundant features, and great design, this 7-megapixel digital camera has a lot to offer the enthusiast who's a few dollars short of the price of a digital SLR (macworld.com/0577).

WIDE-FORMAT INK-JET PRINTER

Stylus Photo R1800

$549, from Epson (www.epson.com): This printer sets the standard for versatile, high-performance, large-format desktop photo printing. It's fast and produces outstanding prints. It doesn't get any better than this—and certainly not at this price (macworld.com/0518).

continues

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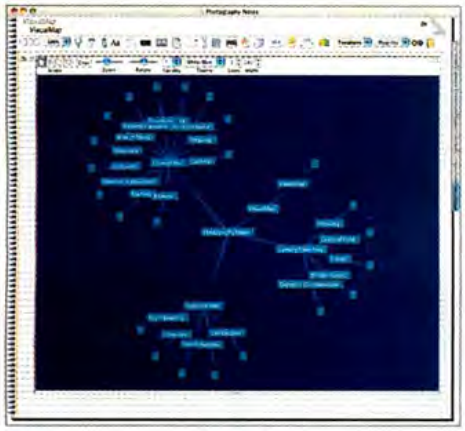


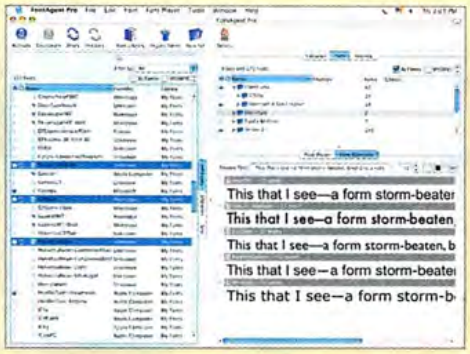
NoteTaker 1.9.4 ▲ ($70), from Aquaminds (www.aquaminds.com): NoteTaker uses a spiral-bound–notebook metaphor to help you take notes, outline, and clip information from other applications. This version adds an assortment of enhancements that should appeal to power users, such as support for Java applets, basic Web browsing from within the application, and other usability improvements. But if you're looking for more-elegant and less-expensive (albeit less brawny) note-taking software, you may also want to consider the program's competition (macworld.com/0519).

IRISPen Executive ($200), from IRIS (www.irislink.com): Buggy software and only occasional accuracy make this pen scanner with optical character recognition very problematic. It's a great idea, but the execution needs improvement (macworld.com/0533).

ORGANIZE AND MAINTAIN YOUR FONTS

Font-Management Utilities

If you're having problems with corrupt font files, duplicate fonts, and mismatched PostScript printer and screen fonts, FontDoctor 7.0 is the best remedy. If you need a font manager that scours your hard drive for fonts, gathers them into tidy folders, automatically activates them, and then makes sure they're complete and uncorrupted, try FontAgent Pro 3.0. However, MasterJuggler 3.0.3 has too few automated functions for us to recommend it (macworld.com/0517).

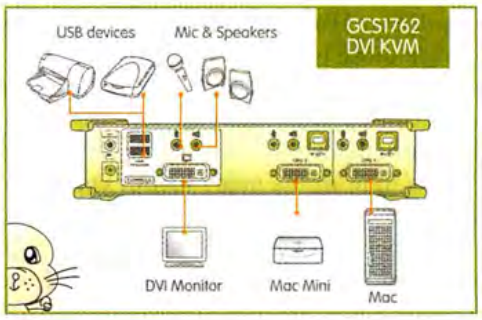


FontAgent Pro 3.0 ▶ ($100), from Insider Software (www.insidersoftware.com)
FontDoctor 7.0 ($70), from Morrison SoftDesign (www.morrisonsoftdesign.com)
MasterJuggler 3.0.3 ($90), from Alsoft (www.alsoft.com)

Shake 3.5 ($2,999), from Apple Computer (www.apple.com): Shake is one of Apple's most important products, but very few people have heard of it. If your work currently depends on a compositing program such as Adobe After Effects or Discreet's Combustion, then you'll want to take a look at the latest version of Shake. But be prepared for your first Shake projects to take a long time as you get up-to-speed with the program. Version 3.5's improved caching and new Warp and Morph tools make this a must-have upgrade for dedicated Shake users (macworld.com/0521).

StickyBrain 3.4 ($40), from Chronos (www.chronosnet.com): StickyBrain 3.4 is a great program for storing your notes, stickies, clippings, passwords, receipts, and reminders. It may be the ideal free-form information manager, especially if you need something that excels at capturing information from other applications and putting it at your fingertips. Though it has some minor interface annoyances, this version's use of hot keys and its integration with Address Book add value to a great package (macworld.com/0520).

The DVI KVM for Macs.



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Game Room

BY PETER COHEN

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Never Mind the Force There are no Jedi mind tricks in Star Wars: Battlefront—just straight-up combat and those amazing Star Wars vehicles.

FIRST-PERSON SHOOTER

Star Wars: Battlefront

First Look

I was seven years old when *Star Wars* first came out, and I can still vividly recall reenacting the scenes with friends in the backyard—blasting our foes to smithereens with imaginary laser rifles and lightsabers while saving the galaxy. As it turns out, things haven't changed all that much. With the release of Star Wars: Battlefront, by Aspyr, you can relive those battles on your Mac—and it's just as fun now as it was then.

Similar in concept to the popular World War II shooter Battlefield 1942, Star Wars: Battlefront lets you fight in the many battles you've seen in *Star Wars* movies. For example, you can become an Imperial Stormtrooper fighting the traitorous Rebel Alliance, or you can become a Rebel fighting the corrupt Empire. You can even go back in time to the prequel movies and fight in the Republic Clone Army or the Separatist Droid Army.

You can decide what type of soldier you want to be. Most of the soldier classes are the same no matter which faction you choose. However, each faction has one special class of soldier with a unique skill. For example, Rebels get wookiees, who are handy with bowcasters. Droids, on the other hand, can use droidekas—droids that roll like bowling balls and come equipped with their own shields and heavy blasters.

The game takes you to many of the locales you've seen in the movies, including the scorching deserts of Tatooine, the cloud city of Bespin, the lush planet Naboo, and the ice planet Hoth. With each new location, you'll need to adapt your strategy to fit the specifics of the landscape.

The best part of the game, though, is being at the controls of various Star Wars vehicles—everything from an X-Wing to a TIE fighter to a two-legged AT-ST. You can even take control of a Republic gunship. While some of the more expansive maps lend themselves to joyrides, others clearly emphasize combat on foot. The cityscapes are especially claustrophobic. On those maps, hopping behind the controls of a speeder or gunship may actually be more of a liability than a help.

You can play on your own, following a single-player campaign system, or use a skirmish option that lets you square off against computer-controlled players. As fun as that is, though, the meat of a game like Star Wars: Battlefront should be its multiplayer capabilities—and in this respect, the game comes up short. The Mac release depends on GameRanger, a Mac-only game-finding service. That diminishes the number of online opponents you're likely to find, and it may turn off gamers who were hoping to play against their PC-using friends.

continues

BETA TESTED

PROS: Varied maps and environments; fun vehicle control.
CONS: No cross-platform multiplayer capabilities.
PRICE: $50
COMPANY: Aspyr Media, www.aspyr.com

News Feed

Black Hawk Down (Again)

Aspyr is set to release the Team Sabre expansion pack for the Somalia-based first-person shooter Delta Force: Black Hawk Down. The add-on features new single-player campaigns, new weapons, new transportation, and much more. You can even take on the role of a British SAS soldier.

Hockey Business

NHL Eastside Hockey Manager 2005 is coming this summer from Sports Interactive (www.sigames.com). The game focuses not on playing hockey, but rather on running a hockey league. Featuring more than 15 playable leagues and a database of more than 3,200 teams, it may appeal to people interested in the business end of pro sports. No word yet on whether the game features a way to avert a strike.

Scratch That

We previously reported that the soundtrack to Aspyr's forthcoming game Stubbs the Zombie in Rebel Without a Pulse had already been released. In fact, the soundtrack will be released closer to the game's release, which is scheduled for this fall.

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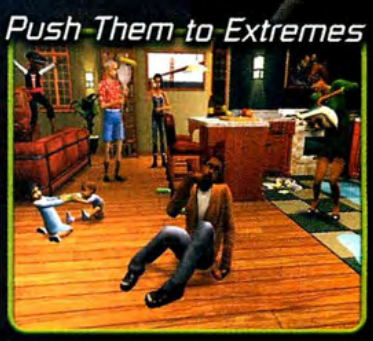

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Challenge Everything

Men in Tights Get in touch with your altruistic side in Robin Hood: The Legend of Sherwood.

The game looks and sounds terrific. It comes complete with the familiar John Williams movie scores and lots of chatter from other soldiers over intercoms. It also gives you plenty of options for adjusting the visual effects to match the capabilities of your hardware. As a result, the game's system requirements are relatively modest for this genre: it calls for a 1GHz G4 with OS X 10.3.6 and a 64MB video system or better.

The Bottom Line Star Wars: Battlefront puts you in the middle of your favorite Star Wars moments—and does so with a great deal of style. The lack of cross-platform multiplayer support is the Achilles' heel of this otherwise terrific Mac conversion.

REAL-TIME STRATEGY

Robin Hood: The Legend of Sherwood

RATING: ♦♦♦
PROS: Nonlinear story line; varied missions; simple interface; low system requirements.
CONS: No multiplayer or skirmish mode; limited replayability; poor zoom support.
PRICE: $30
COMPANY: Freeverse Software, www.freeverse.com

The legendary Robin Hood—the noble-turned-rogue who took from the rich and gave to the poor—has been played on the big screen by everyone from Douglas Fairbanks Jr. to Kevin Costner. Now it's your turn to don the tights and the cap, in Robin Hood: The Legend of Sherwood, a new real-time strategy (RTS) game from Freeverse. Despite its relatively primitive graphics, the game is quite fun if you're fond of the genre.

You start the game playing as Robin Hood. Together with your cohorts, you must find a way to defeat the Sheriff of Nottingham and the corrupt Prince John Lackland, who conspire to keep King Richard the Lionheart away from the throne. You'll learn the game's basic mechanics over the course of the first couple of missions. Once you've assembled your band, you can play as different characters. All game controls are handled through on-screen interfaces such as menus and buttons, which are pretty easy to learn.

Like many RTS games, Robin Hood uses a 2-D isometric perspective. The game's simple graphics engine helps keep system requirements remarkably low—a 300MHz G3 with 128MB of RAM and 8MB of VRAM are all you need to play. But as a result, the graphics don't look great when you zoom in.

Still, for a 2-D game, the action holds up well. Its interstitial sequences look quite pretty. The voice acting and music are acceptable; however, the rapid recycling of the dialogue will quickly send you to the options menu to turn off the sound.

As you face new missions, the decisions you make affect how the game turns out. You'll have to combine stealth with brute force and figure out how to make the best use of your environment and resources. It's easy enough to beat some guards over the head while their backs are turned, but it might be wiser to make your Merry Men create a distraction that will bring a large group of guards away from the scene. You'll need to stay fast on your feet and adjust your strategy to each situation.

The game has dozens of missions to keep you busy—and this is especially important because it doesn't offer a multiplayer mode. Once you've played through, you've probably played as much as you'll want to—unless you start over at the beginning and play through a different way.

You can download a free demo from Freeverse Software's Web site to try it out.

The Bottom Line Though it might not hold a visual candle to today's more sophisticated fare, and it's not the sort of game you'll want to play over and over again, Robin Hood: The Legend of Sherwood will appeal to users of older

continues

ICON BY PAUL HOWALT

Top Downloads | Aquadot-red

Pac-Man clones have been a staple of gaming since the original burst on the scene in the early 1980s. But few have been as pretty and as unique as Aquadot-red, by angelFrogGames. The game even sports a maze editor, so you can build your own levels.

If you've ever played Pac-Man, Aquadot-red will be immediately familiar. You maneuver a red ball with white polka dots around a maze; the ball "eats" dots while being chased by enemy bugs. When it eats power-up dots, the tables turn and it goes after the bugs.

But that's where the comparisons to Pac-Man end. Aquadot-red features considerably deeper game play. Each of the seven bugs has a unique attack style. For example, the red Hunter is single-minded in its pursuit. The purple Lone Wolf is invisible until it's almost right on top of you.

You don't immediately wither and die if you make contact with your foes, but you do lose energy quickly. Sometimes, the best strategy is to run straight at (and through) your enemy, not to run away. Along the way, Yummy dots imbue you with special power, while Yuk dots sap your power.

Aquadot-red randomly selects levels each time you play, so you can't win simply by remembering patterns.

The game's graphics are simple and effective. You'll need OS X 10.2.8 or higher and QuickTime 6.5.1. You can download a free version to try before you buy.

The best part of Aquadot-red is that it includes a maze editor, so you can craft your own levels once you've got the hang of how the game is played. It's quite easy to use and even comes with a sample maze to help you get started.

The Bottom Line Aquadot-red is a unique variation on Pac-Man; it takes the maze-game idea in a whole different direction. Check it out.

RATING: ♦♦♦♦
PROS: Simple game play; maze editor; customizable resolution.
CONS: Somber music.
PRICE: $20
COMPANY: angelFrogGames, www.angelfroggames.com

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Macs who are looking for some fun strategy gaming. I definitely recommend the game to RTS fans.

CARD GAME

Kitty Spangles Solitaire

RATING: ♦♦♦½
PROS: Adorable graphics; resizable screen.
CONS: No game variations besides Klondike; no support for sharing scores online.
PRICE: $20
COMPANY: Swoop Software, www.swoopsoftware.com

Too Cute Beneath that adorable facade, Kitty Spangles Solitaire is downright ruthless.

Kitty Spangles Solitaire, from Swoop Software, may feature adorable cartoon characters Kitty Spangles, Ferdiham the pig, and Bim Bim the chimp. But don't let their cuteness fool you: this game isn't easy to win. In fact, it's downright *mean* when it comes to awarding points.

The game is easy to play. Buttons along the bottom of the screen let you deal a newly shuffled deck, restart your current deck, access on-screen help, and view high scores. You'll earn points for adding a card to a pile, for finding all four aces, and for winning. But you'll lose points if you double-click on a card that can't be moved onto a pile, restock your deck, undo a move, or remove a card from a pile to use elsewhere—so be sure you pay attention.

The game's options are pretty limited. You can adjust the volume for the few sound effects the game includes. You can also choose from a variety of animated background themes. Beyond that, there are few of the accoutrements I'm used to in solitaire games—such as the ability to access my iTunes playlists and online score keeping. And Klondike solitaire gets boring fast—I craved other variations, such as Pyramid and Spider.

Kitty Spangles Solitaire does include one nice embellishment I'd love to see added to other card games: a resizable

Game Gear

Cordless Rumblepad 2

For most of the games I play, a keyboard and a good multibutton mouse are all I need. But a few games—especially the ones ported from consoles—play much better when I have a game pad in hand. Logitech's $40 Cordless Rumblepad 2 lets you get the most from these games while also freeing you from the confines of a USB cord.

The Cordless Rumblepad 2 is more comfortable than its predecessor, thanks to its more rounded shape. Its ten programmable action buttons are in the familiar places.

The RF-based controller works as far as 30 feet away from the computer and is powered by two AA batteries that last as long as 100 hours. This is an improvement on the original, which used four batteries. This also makes the controller lighter than its predecessor. I only wish Logitech would add a charging base.

The Cordless Rumblepad 2 features two vibration feedback motors. Unfortunately, this is only marginally useful on the Mac, since few Mac games support force feedback. The included software is Windows-only, alas, so it will work natively only with OS X games that support the HID Manager. For other games, you'll need a third-party utility such as Alessandro Montalcini's USB Overdrive ($20; www.usboverdrive.com).

The Bottom Line All in all, the Logitech Cordless Rumblepad 2 is much better than its predecessor. Too bad it doesn't have programmable software.

RATING: ♦♦♦½
PROS: Comfortable; power-conservative; no wires.
CONS: No charging stand; no Mac software.
PRICE: $40
COMPANY: Logitech, www.logitech.com

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screen. The cards and the game screen scale perfectly, regardless of the size.

The Bottom Line If you're looking for variety, you're probably better off with another solitaire choice, such as Freeverse's Burning Monkey Solitaire. But what Kitty Spangles Solitaire lacks in variation it makes up for in sheer adorability. □

Recently Reviewed

Close Combat: First to Fight

★★★★½; MacSoft, www.macsoftgames.com; $40

MacSoft has released Close Combat: First to Fight for the Mac. In the increasingly crowded market for squad-based action games, First to Fight manages to stand out as a unique and well-executed game that focuses on real-world military tactics and situations. The game is bound to raise the eyebrows of some politically sensitive players, but that doesn't change the fact that this game is a lot of fun and a lot of challenge.

Close Combat: First to Fight puts you in the role of a marine fighting in close-quarters urban combat in the streets and alleyways of Beirut, Lebanon. The game uses the same tactics real marines do. How well you make use of the assets at your disposal determines how well you do.

You can also play online against Mac and PC gamers. There, you can go head-to-head in a Fire Team Arena battle or you can play a four-man cooperative mode (which is exceedingly difficult).

You'll need an 867MHz G4 with an ATI Radeon 7500 or Nvidia GeForce2 MX graphics card, or better. (MacSoft recommends a faster video card than the minimum for optimal results and says the graphics card you have is more important than the CPU speed.)

Make sure to download the latest patch, which fixes several problems; for instance, it improves the display of graphics on high-end Macs. For more details on the game, check out my first-look report (macworld.com/0531).

MacCentral.com Senior Editor PETER COHEN would like a Kitty Spangles skin for his Doom 3 characters.

ATTENTION

IF YOU ARE A PAST OR PRESENT OWNER OF AN APPLE POWER ADAPTER SOLD WITH OR FOR THE APPLE COMPUTER MODELS LISTED IN ATTACHMENT 1.A OR YOU RECEIVED AN APPLE POWER ADAPTER IN APPLE'S RECALL OF "BLACK BRICK" POWER ADAPTERS, YOU MAY BE ENTITLED TO BENEFITS UNDER THE PROPOSED CLASS ACTION SETTLEMENT DESCRIBED BELOW.

This is to inform you of a proposed class action settlement that may affect your rights. This is only a summary of the full Class Notice. You may obtain a full Class Notice, which explains your rights and gives instructions on how to claim settlement benefits if the settlement is approved, by calling toll-free (800) 705-0686. You can also download a copy of the full Class Notice and the Instructions, Claim Form and Release at http://www.gilardi.com/appleadapters.

The proposed settlement involves a class action lawsuit against Apple Computer, Inc. ("Apple") where the plaintiff claims that the warranty, marketing, advertising and sale of certain Apple power adapters constituted violations of California law because the adapters were allegedly defective. Apple denies the plaintiff's claims.

Definition of Settlement Class

The settlement applies to *some* of Apple's round power adapters ("Covered Adapters"). You own or owned a Covered Adapter if you: (1) bought one of the computer systems ("Subject Computers") listed below, which came with the Covered Adapters; (2) you received an Apple power adapter in the recall of "black brick" adapters (the computer systems included in the "black brick" recall ("Subject Computers") are listed below); or (3) you separately bought a Covered Adapter for a Subject Computer.

You are a member of the Class if: you reside in the United States; and you own or owned a Covered Adapter(s); and the Covered Adapter(s) failed within three years of purchase/receipt on or before April 19, 2005; and you purchased a replacement adapter at your own expense.

Settlement Benefits

If the court approves the settlement and you are a Settlement Class Member, you may be entitled to the benefits described briefly below and in greater detail in the full Class Notice.

If your Covered Adapter(s) failed within the *first or second year* following purchase or receipt, you may be eligible to receive one cash refund of $35.00 and/or a $35.00 Certificate(s). If your Covered Adapter(s) failed in the *third year* following purchase or receipt, you may be eligible to receive one cash refund of $20.00 and/or a $20.00 Certificate.

The requirements for obtaining cash refunds and Certificates are explained in the full Class Notice. You may only receive one refund, and up to two Certificates, per Subject Computer. Certificates may be used to purchase Apple-branded hardware or software products (excluding printer consumables, iTunes Music Store gift certificates, and electronic software download products) priced at $65.00 or more (pre-tax) from The Apple Store at www.apple.com. Additional terms and conditions on the Certificates are explained in the full Class Notice.

How To Receive Settlement Benefits

To receive Settlement benefits, you must complete and mail a Claim Form by November 15, 2005. To receive a cash refund, you must also provide proof of purchase of a replacement adapter. If you do not receive a Claim Form by mail by June 1, 2005, please call toll-free (800) 705-0686 to request that a Claim Form be mailed to you, or you may download and print the Claim Form from the website http://www.gilardi.com/appleadapters.

Hearing Notice

A Final Hearing will be held before the Honorable Jack Komar of the Superior Court of California for the County of Santa Clara, located at the Old Courthouse, Department 17, 161 S. First Street, San Jose, California 95113 on September 27, 2005, at 9 o'clock a.m. to determine: 1) whether the proposed settlement is fair, reasonable and adequate and should receive final approval; 2) whether a settlement class should be finally certified; and 3) whether the application of counsel for the class for an award of attorneys' fees and expenses in the amount of $650,000 should be granted.

Right To Object, Request Exclusion or Seek To Intervene

If you are a member of the proposed Settlement Class, you also have the right to exclude yourself from the settlement, object to the settlement or to the payment of attorneys' fees and expenses, or seek leave from the court to intervene. **Opt-outs must be postmarked on or before August 15, 2005. Objections must be postmarked on or before August 15, 2005, and filed with the court and actually received by counsel on or before August 22, *2005.*** *The full Class Notice* explains how to exercise these rights.

DO NOT CONTACT THE COURT OR THE CLERK'S OFFICE FOR INFORMATION.

DATED: April 19, 2005

ATTACHMENT 1

A.

SUBJECT COMPUTERS ORIGINALLY SOLD WITH COVERED ADAPTERS

Model	Month First Shipped	Approximate Month Shipping Discontinued
PowerBook G3 (Firewire)	02/2000	01/2001
iBook	07/1999	09/2000
iBook (Firewire)	09/2000	05/2001

B.

SUBJECT COMPUTERS ORIGINALLY SOLD WITH "BLACK BRICK" POWER ADAPTERS, WHICH WERE REPLACED WITH COVERED ADAPTERS IN THE "BLACK BRICK" RECALL

Model	Month First Shipped	Approximate Month Shipping Discontinued
PowerBook G3	05/1998	10/1998
PowerBook G3 Series	10/1998	05/1999
PowerBook G3 Bronze Keyboard	05/1999	04/2000

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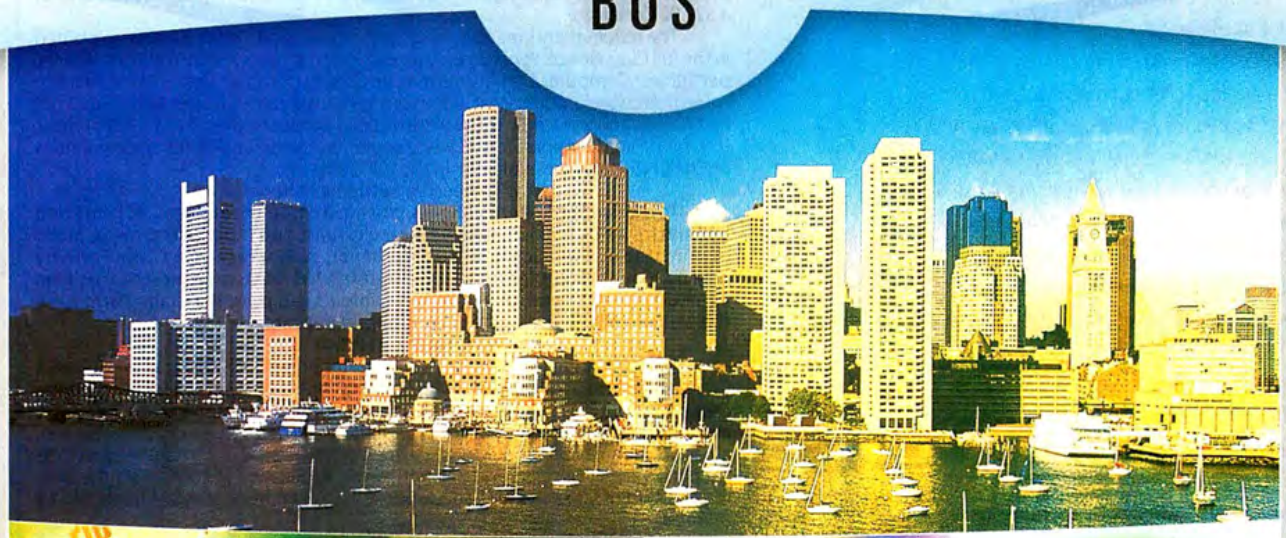

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Mac Gems

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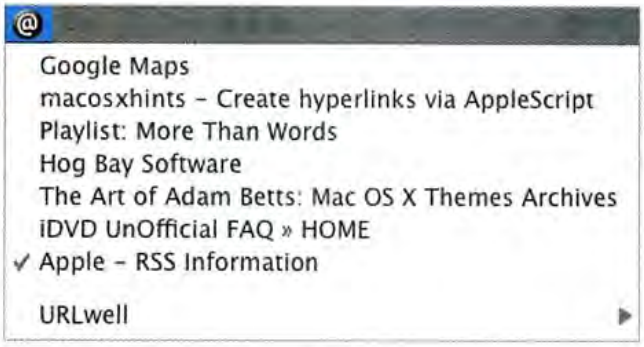


Web-Site Waiting Room URLwell conveniently saves those "I'll check that out later" URLs so your desktop stays tidy.

Like many people, I tend to use my Mac's desktop to temporarily store files. Sifting through my files recently, I was surprised to find a few dozen Internet Location files—the URL bookmark files you get when you drag a link from your Web browser or an e-mail message to the Finder—that I'd put on my desktop. I had already revisited many of them, and I realized that I needed a better way to deal with these URLs. Then I came across Enigmarelle Development's free URLwell 1.2.1 (★★★★; www.enigmarelle.com), a storage area for URLs. Just drag a URL you want to store temporarily—from a Web page, an e-mail message, or even your browser's address bar—to URLwell's menu-bar icon and drop it there to add it to the menu.

Choosing a URL from the URLwell menu opens that site in a new tab or window in your preferred Web browser. This may sound like pretty much any browser's bookmarks menu, but URLwell is specifically designed for URLs you want to check only once. You simply set URLwell's preferences to either remove a URL from the menu or check it off after you've used it. The only quirk I've found is that there's no way to "uncheck" a checked-off item—a feature that would come in handy if you wanted to revisit a site again.

URLwell's menu also bests Safari's bookmarks—at least for tracking URLs you need only temporarily—by providing a number of useful features that help you manage your bookmarks. You can manually add a site by typing in its name and URL; export your list of URLs to a text or HTML file; and clear items from the menu (either all of them or just checked-off items). And via URLwell's Preferences dialog box, you can manually add and remove individual items, and you can even grab HTML-formatted links for inclusion on a Web site.

URLwell isn't a bookmark manager, but for its intended purpose, I've found it to be exceptionally handy.

CALENDAR PUBLISHER

iCalPublish 2.0

If you're a frequent user of Apple's iCal calendar program, you know that one of its handiest features is the ability to create multiple calendars that you can view individually or in any combination. You also likely know that you can publish these calendars on the Internet via a .Mac account or WebDAV server, so you and others can view them in a Web browser or subscribe to them in any calendar program that's compatible with the ICS format.

Tiger users can create a calendar group to export multiple calendars as a single calendar, but for people still on Panther, there's no way to combine your iCal calendars into one published calendar. Luckily, you can get around this limitation with The Buddy System's $15 iCalPublish 2.0 (★★★½; www.buddy.com). iCalPublish lets you publish a single, combined calendar, or any combination of iCal calendars (your own or those to which you've subscribed), to your .Mac account or any WebDAV server.

Calendars Coalesce iCalPublish lets you combine and publish multiple iCal calendars as one.

iCalPublish also provides some useful options: you can add a prefix to the names of events from a particular calendar (nice for seeing which events came from which calendar); include subjects in calendar events; and include any notes you've added to events in iCal. You can also control when new calendars get published.

Despite its otherwise excellent functionality, iCalPublish does have a few problems. It puts some buttons in odd places; if you change the name of a published calendar, you need to remove the previous calendar manually from your server; and—due to a limitation of iCal—published calendars don't retain the colors of the source calendars. But iCalPublish is still a useful, one-of-a-kind utility for Panther users who have more than one iCal calendar and want to publish them together. And the included Read Me file is clear and understandable, which can't be said for a lot of the software I review for *Mac Gems*.

COOKIE MANAGER

Cookies Eater 1.1

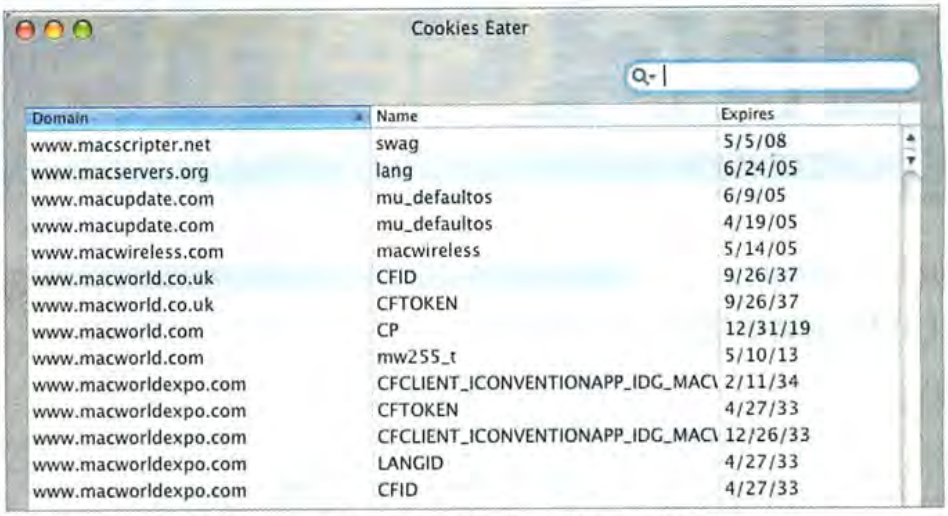
Many Web sites use cookies—small bits of information about your browsing sessions—to save your login information and preferences for viewing that site, or to keep track of items you've added to an online shopping cart. Sites store these cookies on your hard drive and request them each time you visit. For the most part, cookies don't do any harm, and one site can't access another site's cookies. Still, some people have reasons for disabling cookies or deleting specific ones

continues

(for example, some cookies keep you logged in to a site, something you may not want on a shared computer).

Most browsers, including Safari, let you view basic information about and manage cookies. But if you work with your cookies frequently, Safari's cookie-management functionality leaves a lot to be desired.

For a better solution, check out Nicolas Valcasara's free Cookies Eater 1.1 (★★★★; macworld.com/0491). Like Safari's own cookie options (in Preferences: Security), Cookies Eater lets you view your cookies and sort them by domain (Web site), name, and expiration date. You can also get information on a cookie, viewing its path and contents (although not its security value). But several additional features make Cookies Eater a much better solution than Safari for managing your cookies. First and foremost is its search field: by typing a domain, or part of a domain, into the field, you can filter the list of cookies to just those associated with that domain. (Alternatively, if you know the name of the cookie you want to find, you can change the search criterion from Domain to Name.)



Toss Your Cookies Cookies Eater lets you search for, edit, and delete individual cookies.

Once you've located the desired cookies, you can select them all and delete them, just as you can in Safari—Cookies Eater even lets you undo accidental deletions. But Cookies Eater has another handy feature that power users will appreciate: you can not only view more information about a cookie, but also *edit* that information: domain, expiration date, name, path, and value. I don't recommend editing cookies if you don't know exactly what you're doing, but if you do, Cookies Eater makes the process simple.

If you spend much time in Safari's Show Cookies dialog box, you'll utilize that time more efficiently with Cookies Eater.

Flickr and iPhoto: Hand in Hand

One of the best things about digital cameras is the ease with which they let you share photos. You can print them on demand; e-mail them; or—as is becoming more and more popular—upload them to a Web site. In fact, some Web services focus solely on picture sharing. One such service has become particularly popular, thanks to its array of features and free membership level—Flickr.

Web Exporter The Flickr Export plug-in for iPhoto makes it easy to post your photos on the hot new photo site.

At the same time, one of the strengths of the Mac platform is iPhoto, which makes it easy and fun to manage your images. iPhoto even lets you share photos through the three aforementioned methods, but it's generally limited to publishing photos to Apple's HomePage or exporting to HTML. Wouldn't it be great if you could publish iPhoto images directly to Flickr?

Now you can, using Fraser Speirs' open-source (and free) **Flickr Export 1.2.1 plug-in for iPhoto** (★★★★; www.speirs.org), which adds a Flickr tab to the Export Photo window in iPhoto 4 or 5. You then specify a target Flickr Photoset (similar to an iPhoto album), or create a new one. Flickr supports tags, and the plug-in converts your iPhoto keywords to tags that Flickr can understand. The plug-in can also fill in the image titles—and the descriptions—using the corresponding values from iPhoto.

Flickr also offers a resize option that will resize or constrain your photos before upload. This can be useful, as its free membership level allows you to upload only 10MB of photos each month. Unfortunately, the plug-in currently doesn't display the available amount of upload bandwidth, nor will it warn you that you're about to exceed that limit—you'll find out when it happens. According to the developer, both of these features will appear in a future version of the software.

If you use iPhoto to manage your digital photo collection but you really dig Flickr's handling of photo publication—tagging, photo sets, a photo stream, and comments—the Flickr Export plug-in for iPhoto may offer you the ideal bridge between the two.—DERIK DELONG

NEW-DOCUMENT CREATOR

Document Palette

Creating a new document in OS X has traditionally entailed switching to the appropriate application, creating a new document, choosing the Save command, and then navigating—via the Save dialog box—to the folder in which you want the new document to reside. When I create a new document, I usually have a pretty good idea where I'm going to save it. In fact, that folder is often open in the Finder. So I've always wanted the ability to say "Create a new document right here."

Vertical Eye's $8 Document Palette (★★★½; www.verticaleye.net) grants my wish. Document Palette runs as a background application, with a separate foreground app that you launch just to set preferences. A keyboard shortcut brings up a translucent palette showing possible document types—by default, plain-text, rich-text, or HTML. Choose one to create that type of document in the active Finder folder.

But Document Palette also lets you set up your own document template. Just create a blank document in the desired appli-

continues

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cation and save it to your hard drive; then launch the Document Palette application. Drag your document template into the Documents window. Name the document icon in the palette, assign it a keyboard shortcut, and choose whether you want to delete the original file after adding it to Document Palette. Because the new documents that Document Palette creates are clones of your original version, they don't have to be blank—you can add templates of documents you frequently need, making this the most efficient way I've seen to create new documents based on a template. Since I've started using Document Palette, it has become a must-have in my own OS X tool chest.

New Document Use Document Palette to create a new document in any open Finder window (or on the desktop) without opening an application.

DVD RIPPER

MacTheRipper 2.6.6

Having a PowerBook with a DVD drive is great for lengthy plane flights, since it means I can watch my own movies. But bringing DVDs means I have to carry more things in my travel bag, and I'd rather not risk scratching (or, even worse, losing) all those expensive discs. And, of course, running a DVD drive sucks up a lot of battery power.

The solution to my dilemma is to copy (or rip) my DVDs (movies I *own*, of course) to my PowerBook's hard drive. The best tool I've found for the task is the free MacTheRipper 2.6.6 (♦♦♦♦; www.ripdifferent.com/~mtr/).

Just insert a DVD, launch MacTheRipper, choose your settings (whether you want the whole disc or just the movie portion, for example), and then click on the Go button. The ripping process takes about 30 to 40 minutes for an average-length DVD; when it's finished, your movie will be sitting on your hard drive in a folder called VIDEO_TS, inside another folder bearing the movie's name. To play a ripped movie, you simply launch Apple's DVD Player application, choose File: Open VIDEO_TS Folder, and then navigate to the movie's

DVD Saver MacTheRipper copies your DVDs to your laptop—so you can keep the originals at home, safe and sound.

THE CONQUEST

DiskWarrior is Now OS X Native

It's the indispensable utility that repairs problems such as disks that won't mount, files you can't trash, and folders that have disappeared. MacUser magazine said, "It's the fastest and safest data recovery utility you can buy."

Macworld magazine said, "DiskWarrior is by far the best disk utility available for the Mac; it can repair virtually any disk problem you may encounter...and it is likely to become the only tool you'll want to keep with you at all times."

David Coursey, ZDNet AnchorDesk, agrees in an article comparing disk utilities. He used it to fix a disk that no other utility could. "DiskWarrior is a great product, not just because it fixed a pretty serious screw-up, but because it showed me what it planned to do in minute detail before doing it."

But disk damage isn't the only threat to your data. As hard drives get older, the drive mechanisms

THE UTILITY COMPANY
ALSOFT

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VIDEO_TS folder. You can now watch the movie just as if you had inserted the actual DVD. (MacTheRipper won't rip every disc, but of the films from my library that I've tried, it worked successfully with all but one.)

iPOD PRESENTATION HOLDER

iPresent It 1.2

Every seasoned presenter knows that if you're giving an important Microsoft PowerPoint or Apple Keynote presentation, you should have a backup. Although bringing a copy of your slide show on a CD, a DVD, or a flash memory drive is always a good approach, if something goes wrong with your computer, you still have to find another computer to use—and fast. Wouldn't it be nice to be able to bring a second presentation system with you?

If you've got an iPod photo, you can do exactly that—using ZappTek's $18 iPresent It 1.2 (★★★★; www.zapptek.com), you can put your presentation right on the iPod photo as a slide show and bring it along as your backup. If disaster occurs, you can just hook up the iPod photo to a TV or a video projector and proceed with the slide show without breaking stride.

Ultraportable Presentations Keep a copy of your PowerPoint or Keynote presentations on your iPod photo with iPresent It.

iPresent It takes care of the entire process for you—converting your Keynote or PowerPoint presentation to images, optimizing the images for the iPod photo, and even importing them into a new album in iPhoto if desired.

Since the iPod supports only still images, iPresent It doesn't support animation (builds and transitions). If your presentation is in Keynote 2 format, though, iPresent It can approximate builds by creating a separate slide for each stage of the build. If you're using PowerPoint or Keynote 1 and want builds, you'll need to create slides manually in the original presentation, one slide for each stage.

iPresent It isn't limited to a single presentation; if you add multiple presentation files to the slide-show list, iPresent It will create a new slide show for each file. iPresent It also keeps track of changes to presentations, alerting you when you need to update a presentation on your iPod.

If your job or your grade depends on presentations and you've got an iPod photo, iPresent It is a handy tool for making sure they go off without a hitch. Just don't forget your iPod photo's AV cable. □

Senior Writer DAN FRAKES (www.danfrakes.com) is also the reviews editor of Playlistmag.com. Send your thoughts on this column, or on things you'd like to see in future columns, to macgems@macworld.com.

GO TO WEBLOG:

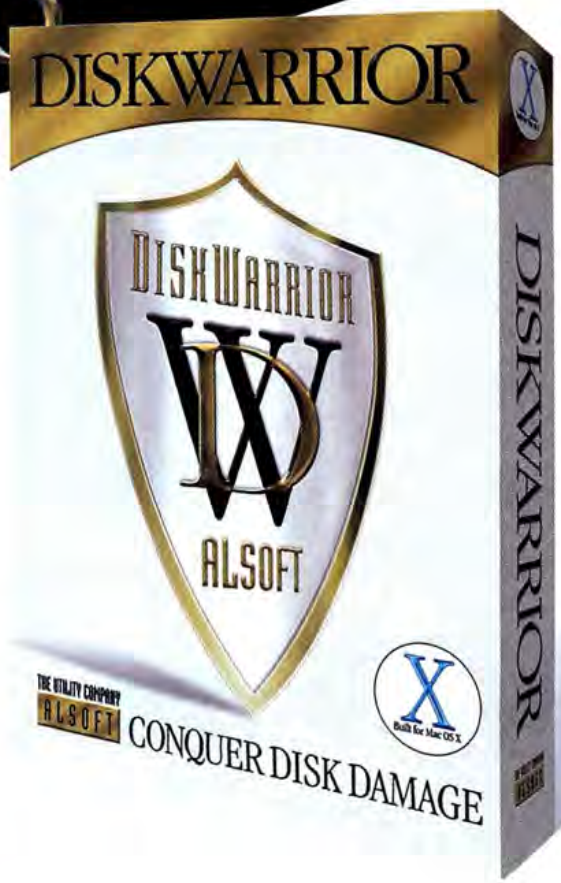
The Mac Gems Weblog (www.macworld.com/macgems) contains even more reviews. Check out this month's Web exclusives.

PRODUCT	RATING	URL	DESCRIPTION
BlogAssist	★★★½	macworld.com/0492	Weblog tagger
Cordz Multi-Connection Survival Tool	★★★★	macworld.com/0493	Portable Ethernet and phone cable

CONTINUES

begin to malfunction. Eventually, the malfunctions become so severe that the drive simply stops working. DiskWarrior can automatically test for hardware malfunctions, giving you the chance to back up your data before it's too late.

Be prepared. Don't wait until after you have a disk disaster to buy your copy of DiskWarrior. Bob LeVitus, aka Dr. Mac, said, "I feel naked without DiskWarrior." You can believe MacHome magazine when they said, "DiskWarrior is a quick, one-click solution to faster, more stable hard drives."



MacUser AWARDS 2000 WINNER · Macworld 1/2 · Apple Design Award · winner macworld eddy's · MACnificent · mactoday ★★★★★ · Mac Addict RATED FREAKIN' AWESOME!

Every time Apple releases a new OS, the Mac world divides itself into four camps.

First, you've got the folks who pitch tents in front of Apple Stores, waiting for the official on-sale date like *Star Wars* fans queuing for the latest Episode. They're going to upgrade no matter what.

Then you've got your early adopters—they prefer to wait until Apple releases the new OS's first bug-fix update.

Next are the skeptics, who wait until friends or a trusted source (such as *Macworld,* we hope) tells them that the OS is indeed worth the bother.

Finally, there are the die-hard Mac users who are still using OS X 10.2 or 10.1, or even OS 9. They're perfectly happy with the software they have, and they see no reason to switch.

TIGER ARRIV

No matter which of these four groups you belong to, there's a fifth you should know about: the Mac cognoscenti, who've been playing with Tiger for months now, checking out new features and figuring out clever things to do with them.

We asked a few of these early-early adopters to help us assemble the following guide to Tiger. It focuses on new tools, such as Spotlight and Dashboard, as well as the updated versions of Safari, Mail, and iChat. It also provides tips on how to safely install OS X 10.4 and how to get up-to-speed on it quickly. So whether you've already made the upgrade or are merely contemplating it, read on. We'll let you know what you're in for and how to make the switch as painless as possible.

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ES

iCHAT AV 3.0 P. 62 **QUICKTIME 7.0** P. 63 **SYNCING AND .MAC** P. 63 **UNIX** P. 64 **HOW TO UPGRADE** P. 64

SPOTLIGHT

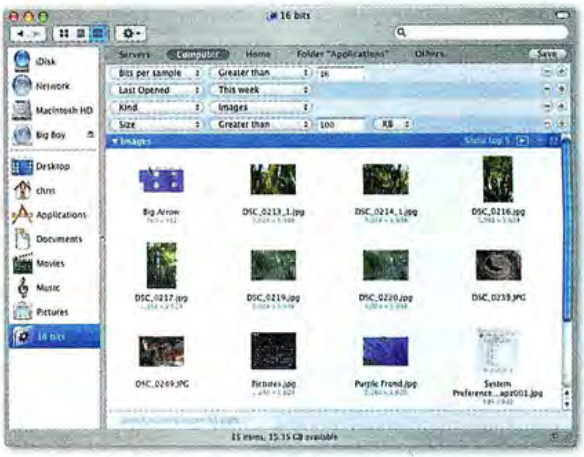
Glance at the outside of the OS X 10.4 box, and you'll see that the massive metallic gray *X* is bathed in a bright spotlight. Could there be a clearer indication of how important Tiger's search technology, Spotlight, is to Apple?

But Spotlight's significance goes beyond Tiger's packaging. It resides in the deepest levels of the operating system.

What sets Spotlight apart from previous search tools is its ability to catalog and search *metadata*—information about the file, such as the brand of camera used to take a digital photo, the bit rate of an iTunes track, or the author of an e-mail message.

This metadata makes it possible to search for the word *tiger* and find not only documents that contain *tiger* in their file names, but also pictures from your child's last trip to the zoo, e-mail exchanges about Apple's new OS, and—if your musical tastes run to early-1980s anthems—a regrettable hit from *Rocky III*.

Spotlight does its work by accessing two indexes per volume—one for metadata and another for the contents of files. These indexes are created on-the-fly and in the background, so results are always up-to-date. Unlike search systems on other platforms, Spotlight doesn't make you update its indexes. And Spotlight is fast because it searches the metadata index before trying the much larger contents index.



A Better Finder Spotlight doesn't replace the Finder—it augments it. You can now create smart folders which, like smart playlists in iTunes, automatically update themselves.

If searching metadata and contents isn't enough, you're welcome to open a file's Info window and enter tags in the Spotlight Comment field. Spotlight can search for these comments, too.

GRADING TIGER

We asked a few of the more seasoned Mac observers we know for their thoughts on Apple's new OS. Specifically, we asked them to assign grades to OS X's major new and upgraded features (Spotlight, Safari, Automator, Dashboard, Mail, and iChat AV). The grades are based on how useful the feature is, how well it has been implemented, how much it improves on the previous version (if there is one), and just how generally cool it is. Here's Tiger's report card.

	SPOTLIGHT	SAFARI 2.0	AUTOMATOR	DASHBOARD	MAIL 2.0	iCHAT AV 3.0
BREEN	B	B+	B+	A-	B-	B-
FRAKES	A-	A-	B+	B	B+	B+
GRIFFITHS	B	A-	B	B+	A	C-
IHNATKO	A+	B	A	B+	B+	A-
KISSELL	A	B+	A-	B	A	B+
McELHEARN	A	B+	B	A-	A	B+
COMMENTS	Adds power but also complexity to searching. Could be daunting to new users. Impressively fast. Requires some command-line fiddling to index certain folders.	RSS is nice—but not enough to make me toss my regular reader. Private Browsing mode greatly appreciated. Best new feature: commands to mail a link or contents of current page.	Huge improvement over AppleScript, but will general Mac users use it? Not a QuicKeys substitute. Fantastic idea, but still some rough edges.	Useful and looks great. Sometimes slow to activate. Easy to get widget overload.	Smart mailboxes are nice, but I'd prefer more-robust rules. Vastly better in almost every way. What 1.0 should've been. Syncing mail and settings across multiple computers is hugely valuable.	Multiperson video chat looks better in studio than in real life. System and bandwidth requirements make multiperson video conferences inaccessible for many users. Best new feature: privacy settings.

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FINDER SEEKER

The first sign of Spotlight is the magnifying-glass icon that appears in the upper right corner of the Mac's menu bar. Click on this icon (or press ⌘-spacebar), and the blue Spotlight field appears. As you type your query, results begin to appear; the list narrows as you continue typing. You can also tell Spotlight what kind of item you're looking for. For example, typing `kind:application` produces a list of all the applications on your Mac. You can also combine queries—entering `kind:email date:today` lists all the e-mail messages you've received that day.

However you phrase your query, Spotlight returns what it thinks are the 20 most relevant results. If what you want is in that top 20, select the result you want, and the document will open in its associated application (see "Just the Hits"). If you don't find what you're looking for in that list, keep typing to narrow the search, or click on Show All at the top of the list to view all the results in a separate Spotlight window. (This window also appears if you press ⌘-option-spacebar.)

Within the Spotlight window, you can group and sort search results in a variety of ways—by date, kind, or location, for instance. Within these groups, you'll see the five most relevant results followed by a blue link that tells you how many other results there are. Click on this link to see all the found items in that group.

If your hard drive is packed with files, go to Spotlight's preferences to narrow what Spotlight searches for (choose Spotlight: Preferences, or go to the Spotlight pane in System Preferences). Specify which kinds of files you want it to look for—documents, mail messages, and images, for example, but not applications and music files. In this same preference pane, you can instruct Spotlight to keep out of specific locations. Spotlight respects OS X's permissions and won't search the files in another user account on your Mac.

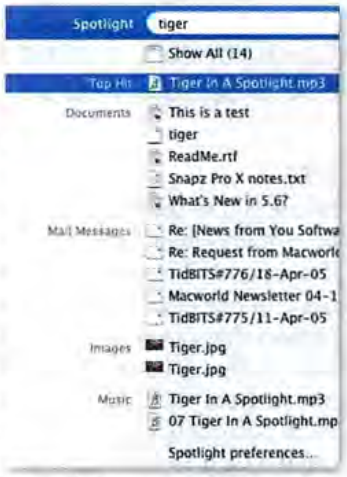
Spotlight supports multimedia in a big way. For example, you can view images as thumbnails or as a slide show. You can also add an image to iPhoto with a single click. If you select a movie file in the Spotlight window and click on the small Information icon to its right, you can view the movie as a thumbnail, complete with sound. Drag that movie to the desktop to copy the entire movie. Audio files work similarly.

BEYOND FINDER

The technology behind Spotlight also shows up in features of Tiger's Finder, Mail, Address Book, and System Preferences.

In the Finder, smart folders let you save search results that update as you add or change files. Smart folders appear not only in Finder windows' sidebars, but also in the sidebar within Tiger's Open and Save dialog boxes (see "A Better Finder").

And Address Book 4.0 has a Smart Group feature that lets you gather contacts that meet certain conditions—people who live within a particular zip code or belong to a certain e-mail domain, for instance. Address Book even allows you to choose a contact and invoke a Spotlight command that will show you all accessible files pertaining to that contact. (For more on how Spotlight changes Mail, see "Mail 2.0," page 57.)



Just the Hits Type in your search term and press return, and Spotlight will serve up what it considers to be the 20 best results. If there are more than that, then you can get them all by choosing Show All.

Spotlight really lives up to its name in Tiger's System Preferences: Enter a query in System Preferences' Spotlight field, and any system preference related to the query will be highlighted with, yes, a white spotlight (see "What's Your Preference?").

Not to be left out, Unix-savvy users can perform Spotlight searches from Terminal (/Applications/Utilities): `mdls` lists all the metadata attributes of a file, and `mdfind` performs a Spotlight-like search from the command line.

MORE TO COME

Spotlight is also extensible. Developers can create Spotlight plug-ins for their applications; with developer support, it should soon be possible to find any type of file on your Mac. Microsoft, for one, says that Word, Excel, and PowerPoint documents will appear in Spotlight searches. (Because of the way Entourage stores e-mail messages, it isn't Spotlight-ready—yet.) But expect most other Mac developers to follow suit soon.—CHRISTOPHER BREEN

What's Your Preference? Spotlight shows up everywhere in Tiger—perhaps nowhere more effectively than in System Preferences. You can enter a search term, and Spotlight will shine a light on all the preference panes that match it.

SAFARI 2.0

When Apple gave us a preview of Tiger at last June's Worldwide Developers Conference, it seemed that the biggest change to the Safari Web browser could be summed up in three letters: *R-S-S.* But there's lots more.

RSS

In case you've been ignoring what all the cool kids have been doing online lately, RSS (as in Really Simple Syndication, or Rich Site Summary, or RDF Site Summary, or one of an apparently endless number of other phrases that can be pared down to *RSS*) is a way for Web sites to provide summaries of articles and other new content via a simple summary page called a *feed.* With Safari 2.0, you no longer need a dedicated RSS client—such as Ranchero Software's NetNewsWire ($40; ranchero.com/netnewswire)—to read these feeds. Instead, you can read them in Safari.

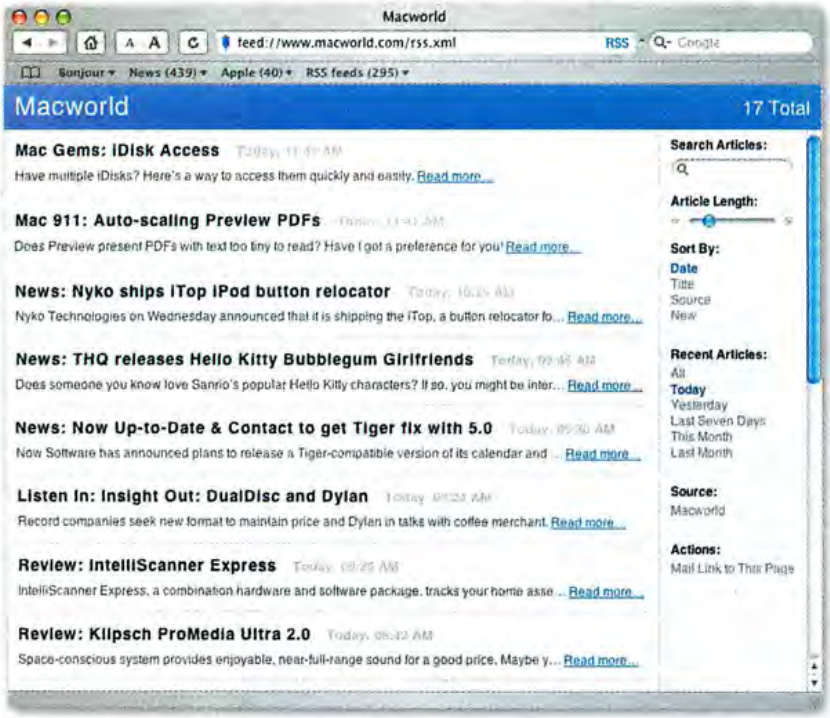
As Steve Jobs has demonstrated over the past year, a blue RSS icon now appears in Safari's address bar when you're browsing a site with an RSS feed (both the RSS format and the Atom format are supported). Clicking on that icon displays the feed right in your Safari window; a simple slider control lets you adjust the size of article summaries on-the-fly.

But Safari 2 includes a number of other neat RSS tricks that haven't been widely covered. You can, for example, bookmark a feed just as you would any other Web site. Once you've done so, Safari automatically monitors it for new content, displaying the number of new articles next to the bookmark name.

Safari's Personal Clipping Service goes one step further, enabling you to search an RSS feed for a specific topic and then bookmark that search—Safari will automatically keep track of any new articles in that feed that fit your search criteria, and it will notify you when such articles appear. If you'd rather read feeds in your current RSS client, Safari lets you set your default reader as another application; clicking on an RSS icon in the Safari address bar will display the feed in that app.

Really Simple RSS Safari's big new feature is an RSS reader built into the browser itself. But if you want to stick with your current reader, you can easily add feeds to it from within Safari.

More Image Options In Safari 2.0, when you right-click on an online image, you can add it directly to an iPhoto library or save it to your desktop.



BEYOND RSS

There's more to the new Safari than just RSS:

Improved Performance Apple says that Tiger's Safari loads pages *1.8 times faster* than Safari 1.2 on Panther. I didn't test Safari 2 with a stopwatch, but in my experience, it *is* noticeably faster than the previous version.

Saving Web Sites One of the most common complaints about Safari since its 2003 debut has been its lack of support for saving a complete Web page to disk. (You could save pages as PDF files, but you'd lose links and other HTML features.) Safari now lets you save pages as Web Archives, which preserve *all* page content, including images, text, and formatting. You can also e-mail these contents, or just a URL link, via simple menu commands.

Private Browsing Your browsing history, cookies, and cache files can all contain information about where you've been on the Web and what you've seen there. Safari's new Private Browsing mode, announced last year, can disable each of those features—great when you're browsing on a public computer or if you're just cautious. But remember that this feature isn't retroactive: if you've visited a site prior to enabling Private Browsing, then remnants of that visit—cache files, cookies, and possibly even autofill values such as your

name and password—may still be sitting around.

Parental Controls In case you don't want your kids visiting the seedier side of the Internet, Tiger lets you restrict Safari's reach. With this feature enabled for an account, your kids (or anyone else) can browse only the sites included in the Bookmarks Bar; an administrator has to add sites to the bar.

PDF Viewing You no longer need to install a third-party plug-in to view online PDFs in Safari. That said, plug-ins such as the one installed by Adobe Acrobat Reader 7 or ShubertIt's PDF Browser Plug-in (free; www.schubert-it.com) still provide more viewing options than Safari 2.

Bookmark Changes Safari now features a *filter* search field, just like the one in iTunes, that lets you quickly search your bookmarks, RSS feeds, and history. You can also search within groups (so you can, for example, restrict your search for *iPod* to just the sites you've visited recently). You can also easily export your Safari bookmarks to an HTML file and import HTML-formatted bookmarks—so you no longer need third-party software in order to share your bookmarks between computers or with friends.

Image Tools See a great image on a Web site? Control-click on it and choose the new Add Image To iPhoto Library command to send it to iPhoto. Or save the image file to your Desktop via the Save Image To The Desktop command.

More-Obvious Download Security When you download an application—or even just a disk image that contains an application—Safari asks whether you're sure you want to. If so, the download finishes; if not, Safari stops the download and deletes the file.

Staying out of Trouble Safari gives concerned parents new tools for controlling where their kids can go on the Web.

Better Text Editing In Tiger, Safari offers significantly improved text editing (for example, when you're typing text in a text-entry box). Two of the handiest new features include the ability to undo and redo, and support for standard OS X keyboard shortcuts (for example, ⌘–left arrow moves to the beginning of a line, ⌘–right arrow to the end).

It's now clear that the new Safari is much more than just "Safari with RSS." Over the past couple of years, many Mac users have migrated from Safari to browsers such as Firefox, Mozilla, and Opera. By adding features users have been requesting for some time, as well as many others, Apple may lure some of these users back into the Safari fold.—DAN FRAKES

HOW BROWSERS COMPARE

The new Safari adds a whole bunch of features, along with its now-famous RSS-reading skills. But is it breaking new ground or just playing catch-up? Here's how it compares to the other leading OS X browsers on the market today.—JEFFERY BATTERSBY

	SAFARI 2.0	FIREFOX 1.0	OMNIWEB 5	NETSCAPE 7.2	OPERA 8
E-mail links to Web pages from within the browser.	YES	YES	YES	YES	YES
Export and share bookmarks from within the browser.	YES	YES	no	no	YES
Resize images to fit the browser window.	no	YES	no	YES	YES
Dictionary lookup of words embedded in Web pages.	YES	YES	no	no	YES
View PDF files from within the browser (also possible with the full version of Acrobat).	YES	no	no	no	no
Find specific text on a Web page without having to open a separate Find dialog box.	no	YES	no	YES	no
Search Google for words on a Web page from within the page.	YES	YES	YES	YES	YES
Put parental controls on Web access.	YES	no	no	no	no
Control and suppress Web pop-up ads.	YES	YES	YES	YES	YES
Edit text on Web pages from within the browser.	YES	no	no	no	no
View RSS news feeds from within the browser.	YES	YES	YES	no	YES
Save images from the Web directly to iPhoto.	YES	no	no	no	no
Open new Web pages in tabs instead of new browser windows.	YES	YES	YES	YES	YES

AUTOMATOR

Automator, one of the most interesting new features in Tiger, has a robot for a mascot—with good reason. Automator is a utility that's designed, like the 21st-century robots we were once promised, to do all the dull, repetitive tasks that we intelligent humans don't want to bother with.

EASIER THAN APPLESCRIPT

Unlike AppleScript, which also lets you write programs to control your apps, Automator doesn't require any actual programming. Instead, you just create a "workflow" by dragging and dropping a series of actions into a window.

On the left side of Automator's window, you pick from a large collection of actions organized by application. (It would be nice if Apple also let you view actions by category—filing and converting, for example.) When you find the right action, drag it into the Workflow area. As you drag items in, they connect to one another; the results of one step can be passed along to the next. By sequencing these basic actions, you can create a complex series of tasks using several different Mac programs (see "Like Legos").

Once an action is in the Workflow area, you can set different options that let you define exactly what that action will do. For example, the Preview application's Scale Images action lets you define what size or percentage you'd like the app to scale your images to.

Let's say you wanted to automatically copy unread Mail messages as note files to your iPod. You'd couple four steps: an action that checks your messages in Mail, an action that finds unread mail messages, an action that combines those found messages together, and an action that generates a new iPod note.

After you've created a workflow in Automator, you can save it as a tiny application file that you can double-click on to run. For tasks that act on specific files or folders in the Finder, you can even save the workflow as a Finder plug-in. Once you do that, your workflow will show up when you right-click in the Finder.

Automator Everywhere In addition to providing its own interface, Automator shows up in the contextual menus of other apps, so you can build workflows wherever you are.

GET SOME ACTION

Tiger comes with more than 100 built-in actions, and application developers and other third parties are already busily building more. For example, by the time you read this, a new version of Bare Bones Software's BBEdit (★★★★½; $199; macworld.com/0543) will be on the way with 25 actions of its own. You'll also be able to download actions from sites such as Automated Workflows (which will sell actions that work with Adobe Photoshop, InDesign, and other professional programs [macworld.com/0542]) and Automator World (www.automatorworld.com).

Will Automator change the way you use your Mac? As long as Apple, other application developers, and third-party action authors keep releasing new actions at a rapid pace, it probably will. And that means you'll have more time to do things that require your brain, not just your keyboard and mouse.—JASON SNELL

Like Legos By snapping together relatively simple actions in sequence, and passing the output from one action to the next, you can build relatively complex workflows in Automator.

JASON SNELL is *Macworld*'s editorial director.

MAIL 2.0

With all the other features being introduced in Tiger, plain old Mail hasn't received much notice. Steve Jobs didn't even mention it when he previewed the new OS at last June's Worldwide Developers Conference, and he only mentioned it in passing at January's Macworld Conference & Expo.

But don't let the lack of hoopla fool you. While Mail has seen its share of upgrades since its 2001 debut, none can match what's happened in Tiger.

MORE SPOTLIGHT

The most significant change in Mail is its integration with Spotlight's search technology. When you choose Find in Mail 2.0, Spotlight is what appears. (Of course, Spotlight can also search through Mail messages when you *aren't* in Mail.)

Just as it does when operating as a stand-alone app, Spotlight begins to search for matching e-mails as soon as you start typing in Mail's search box. You can search all mailboxes at once or just the one you're currently browsing. You can search the From, To, and Subject fields, as well as the entire message.

A Spotlight search will return a list of messages that match the criteria you entered; clicking on a message reveals its entire text. Spotlight also dynamically updates the search list as new mail arrives. So if you search for *Jim Dalrymple* and I send you a new message, the results will be updated on-the-fly.

SMART MAILBOXES

Mail 2 has another way to keep track of and find messages: smart mailboxes (see "Smarter E-mail"). Like iTunes' smart playlists, these mailboxes are essentially saved searches. Once you define a smart mailbox, all messages meeting its criteria will appear in it, and that list will update itself dynamically as new matching messages arrive. As in iTunes, you can edit these criteria after you've created the smart mailbox.

Unlike the Rules feature in previous versions of Mail (and, again, like smart playlists in iTunes), the Smart Mailboxes feature doesn't actually move messages from one mailbox or folder to another; they still reside wherever you've put them.

NEW LOOK AND MORE

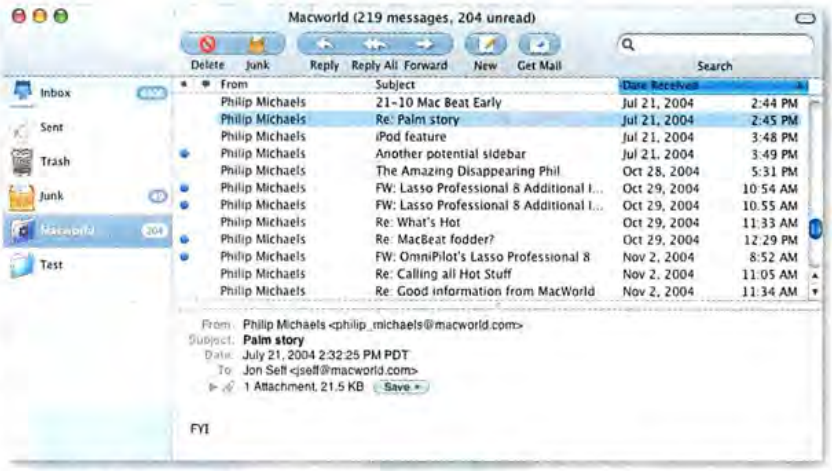
The new Mail also has striking interface updates. The drawer that used to house your e-mail accounts' mailboxes and folders has been replaced with a panel on the left-hand side of the application window. That change makes Mail look and feel more integrated with the OS; it also gives Mail a look that's more like the look of other mail apps such as Microsoft's Entourage or Qualcomm's Eudora.

The color scheme has been modified, with the toolbar background going solid gray and the background of the new side panel sporting light blue. The standard buttons have been replaced with a glossy-looking toolbar, in which icons are grouped by function (see "Pick Your Tools").

Apple has also added the ability to synchronize several items in Mail with other computers; if you have a .Mac account, you can configure Mail to sync your rules, signatures, smart mailboxes, and accounts. The Junk Mail filter has also been dramatically improved.

And Apple has tweaked some Mail preferences. You can now specify that you want to automatically add iCal invitations to Apple's calendar application. There are also new options for signatures, such as the ability to add them to individual accounts, and a much more organized view of your signatures.—JIM DALRYMPLE

JIM DALRYMPLE is Macworld.com's news editor.



Smarter E-mail Smart mailboxes in Mail—which are based on Spotlight—let you define dynamically updated mail folders the same way you define smart playlists in iTunes.

Pick Your Tools The Mail toolbar has been substantially revamped, with new tool icons grouped by function.

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DASHBOARD

Dashboard has been variously described as the return of Desk Accessories, the return of HyperCard, and a rip-off of Konfabulator. But the point is that Dashboard is supposed to make basic computing tasks easy and quick—and on that level, it's a success.

The concept behind Dashboard is new but straightforward: it's like an alternative Finder desktop, launched and then hidden by pressing F12, containing mini-applications called widgets. These apps range from calculators, games, and weather reports to search tools and front-ends for more-complex apps (see "Early Favorites" for a few of the ones I like best so far).

Tiger ships with 14 widgets, including that aforementioned weather report, a world clock, a stock ticker, and an iTunes controller. Apple has also made it easy to add to those 14: clicking on More Widgets (from the Dashboard layer) takes you to www.apple.com/macosx/dashboard. There, you'll be able to check out and download additional widgets (some are free and some are demo versions).

Auto-Widget Installer Download a widget off the Web, and you'll get this dialog box asking whether you want to download the application. Click on Download, and the widget installs itself.

Because widgets are made up of HTML, CSS, and JavaScript, plenty of third-party developers will be cranking them out, too. Prior to Tiger's ship date, there were already dozens of third-party widget sites.

Wherever you get your widgets, Apple has done a little behind-the-scenes magic to make them install themselves: If the site you're downloading from has done its work correctly, you should be able to click on a link in Safari and download the widget. When you see an alert warning you that your download contains an application (see "Auto-Widget Installer"), click on Download, and the widget will move itself into */your user folder*/Library/Widgets/. From there, the widget will automatically be available the next time you're in Dashboard. Note that if you've turned off the Open "Safe" Files After Downloading option in Safari's preferences, you won't get a warning message, and your widget won't automatically install.

Because Apple has put Dashboard's preferences in Exposé's preference pane, you may think the two tools have something in common. Actually, they don't. That said, if you're used to the way Exposé makes application windows appear and disappear, switching to and from the Dashboard layer should quickly become second nature.

Once you've switched over to the Dashboard layer, click on the plus-sign-in-a-circle icon in the lower left corner to call up the Widget Bar, where you'll see an alphabetical, graphical list of all the widgets installed on your Mac.

EARLY FAVORITES

As I write this, the flood of widgets hasn't yet hit, but I've been playing with dozens of first-generation efforts for a while now. Here are some that I really like.

Wikiwidget Apple has included widgets that do dictionary and thesaurus lookups in Tiger. But if you ever use Wikipedia—the online open-source encyclopedia—this widget comes in handy. Enter a search term and press return, and the Wiki page for your search term loads in your favorite browser (www.dashboardwidgets.com).

Dashboard Widget Do you want to quickly make sure that you don't already own a book, CD, or DVD before ordering it on Amazon.com? If you're already using Delicious Monster's Delicious Library (and you should be), this widget will look up whatever you enter right away (www.delicious-monster.com; included with Delicious Library 1.5).

Where's That Widget? These are only about a third of the widgets I have on my machine—and Dashboard is *still* too crowded.

It's easy to get carried away downloading cool widgets to the bar; I currently have to scroll through as many as five bars to find the one I want (see "Where's That Widget?"). Because relaunching widgets is a multistep process, the easiest thing to do is to leave widgets open once you've launched them. When you want to close a widget, just hold down the option key while hovering over it; the Close dialog box for only that widget will then appear.

My guess is that most Mac users, even those who might once have thought twice about launching an additional app or heading out on the Web to look up a bit of information, will soon find themselves pressing the F12 key dozens of times a day.—DORI SMITH

DORI SMITH is the author of the upcoming *Dashboard Widgets for Mac OS X Tiger: Visual QuickStart Guide* (Peachpit Press, 2005).

VelaClock If Apple's World Clock isn't good enough for you, check out Vela Design Group's VelaClock widget. It shows you the current time, moon phase, national flag, and more for cities around the world (www.veladg.com/velaclock).

Kelibo WebFrog This widget is very useful for Web developers and bloggers. Forgot what the HTML code is for smart quotation marks yet again? Just paste your text in WebFrog and click on the DeFrog It button—WebFrog will translate the text into the proper HTML coding, which you can then copy and paste. The coolest part? It'll translate the other way, too (www.kelibo.com/webfrog).

miniPatience This Klondike-like solitaire game puts 52 cards in a tiny space, and it's easy to hide when the boss comes by. This is just one of many cool widgets from Chris O'Brien (www.vanillasoap.com/widgets.htm).

iCHAT AV 3.0

The biggest new feature in iChat AV 3.0 is its support for multiple-user chats. You can now create a video chat with as many as three other people, or an audio chat with as many as nine others. These features really work, but not quite as simply as Apple has made it sound.

FOUR-WAY VIDEO

To keep chats going under less-than-ideal circumstances, iChat prioritizes audio and the frame rate of the video signal (without which a video chat would be awkward at best and unusable at worst). In their place, iChat sacrifices picture quality.

As a result, images of participants sometimes go horribly out of focus. In my experience, three people chatting produces relatively little blurring, but throw in a fourth, and suddenly a couple of people go off to fuzzy-camera land.

One way to avoid that is to let whoever has the fastest connection to the Internet initiate the chat. iChat designates one system as the *host* of the chat, and it should be the fastest system on the fastest connection because it'll do the bulk of the work.

According to Apple, a four-person video chat in iChat AV 3 requires a dual-1GHz G4 or G5 Mac with at least a 384-Kbps Internet connection; just to participate, you need a 1GHz G4, a dual-800MHz G4, or a G5, as well as a 100-Kbps connection.

When you aren't bumping up against bandwidth constraints, image quality in iChat AV 3 seems quite a bit better than in previous versions. That's thanks to the new H.264 video-compression scheme used throughout Tiger (see "QuickTime 7.0 and H.264," page 63).

SECURITY

iChat AV 3 is also more secure than its predecessors.

Previously, the app supported both the AOL Instant Messenger service and local chatting via Rendezvous. Those two features remain intact (though Rendezvous has been renamed *Bonjour*). But there's now a third server option for iChat: Jabber.

Jabber is an open-source chat-service protocol. IT types like Jabber because it lets them set up a chat server of their own and dole out official corporate chat accounts; messages sent to and from those accounts can then be sent via SSL encryption. (No surprise: The Tiger version of Mac OS X Server has a built-in Jabber server.)

For home users, Apple has added parental controls to iChat. From the Parental Controls tab of the Accounts preference pane, you can limit the people your kids chat with to a specific list of accounts—school friends, grandparents in Florida, and you—and nobody else.

Hey, Buddy! iChat finally catches up with AOL when it comes to grouping your chat partners.

BUDDY GROUPS

With iChat AV 3, Apple has finally done AOL buddy groups right. Now when you activate Groups (View: Show Groups), each group of buddies is preceded by a collapsible gray header. Clicking on the header toggles between showing and hiding the members of that group. Creating and editing groups is easy, too: click on the plus sign in the Buddy List window to add a buddy or a group; and use the Edit Groups option to add, rename, or delete groups.

Lots of people I chat with like to use iChat's status message to show the music they're listening to. Until Tiger, that required third-party utilities. Now this function is built into iChat. Just select Current iTunes Track from the list of status-line options, and iChat will automatically update itself to reflect your currently playing track's title and artist.—JASON SNELL

Can You See Me? When your connections or systems can't keep up with iChat AV 3.0's demands, the program blurs out some of its images to save bandwidth.

QUICKTIME 7.0 AND H.264

QuickTime does more than let you watch those video clips your coworkers are always sending you. Whenever you use video within OS X—for example, when you launch a video chat using iChat AV, edit video clips in iMovie, or encode audio files in iTunes—you're using the QuickTime architecture built into OS X. QuickTime 7.0, the updated application that ships with Tiger, makes that architecture stronger than ever.

The biggest advance in QuickTime 7 is the presence of the H.264 video codec (compressor/decompressor). Just as music files based on the AAC audio codec in iTunes sound better than MP3 files of the same size, video files based on the H.264 video codec look better than video based on other codecs.

The QuickTime 7 Player itself also adds some nice features. Full-screen controls let you play, pause, stop, fast-forward, or rewind a movie, as well as adjust volume and scroll through a movie—all while you're in full-screen mode. Previously, you had to switch out of full-screen mode to make such adjustments. QuickTime 7 also features live window resizing, which keeps playback smooth and continuous when you adjust the player's window: it actually stretches or compresses in front of your eyes, instead of jumping from one size to the other. This addition, as well as many other QuickTime improvements, comes courtesy of Apple's new Core Video technology, which allows for hardware-accelerated processing.

There's more: the new A/V Controls window lets you determine how fast you jump back or forth through a movie's frames; a new Playback Speed slider slows down playback, to half of normal speed, or quickens it, up to three times as fast; you can now quickly capture and share movies from an iSight or another FireWire-based camera; and while the DVD Player in Panther added multichannel audio output for watching DVDs, QuickTime 7 is the first version to offer surround-sound through QuickTime Player itself.

All those details are nice, but it's the video in iChat and the higher quality playback that many users will appreciate most.—JONATHAN SEFF

Full-Screen Gem QuickTime 7's new full-screen controls let you play, pause, stop, fast-forward, or rewind, as well as adjust volume and scroll through a movie.

JONATHAN SEFF is *Macworld*'s senior news editor.

SYNCING AND .MAC

When it comes to keeping your Mac in sync with .Mac in Tiger, don't even think about using iSync. That works only with your Mac and your cell phone, iPod, or PDA now. If you want to sync data from your Mac to your .Mac account or to another Mac, you need to do so via the .Mac preference pane's new Sync tab.

The Sync tab provides a conduit for syncing data between your Mac and your .Mac account. Once you register other Macs with the .Mac Sync Server (for this, use the Advanced tab), you can synchronize data among them all.

In Panther, you were able to synchronize Address Book, iCal, and Safari bookmarks. In Tiger, you can synchronize your keychains, Mail accounts, and even Mail rules, signatures, and smart mailboxes. If you have more than one Mac, you can keep them all synchronized, even when you're on the road. Just set the Sync pane on each machine to sync with your .Mac account at regular intervals.

Still, Tiger misses the Holy Grail of Sync Services: synchronizing system and application preferences between multiple Macs. You can't, for example, drag your Preferences folder (*/your user folder/*Library/Preferences)—or anything else for that matter—to the Sync pane. That means there's no easy way to make sure the Dock, Dashboard, Exposé, and Desktop & Screen Saver behave the same way on all your Macs. Sure, you can hack your way around this. (I log in remotely via SSH and copy .plist files from one machine to the other.) But if Apple's going to let me sync my keychains, why not let me sync my system and application preferences, too?

So while Tiger's synchronization is better than it was in Panther, it falls short of everything it could be. I'll let .Mac Sync handle the small stuff, but I'll keep using Ken Boyd's RsyncX (archive.macosxlabs.org/rsyncx/) or Econ Technologies' ChronoSync (www.econtechnologies.com) for syncing preferences and files between multiple machines.—CHUCK TOPOREK

Set Your Sync Using the new Sync pane, you can automatically sync with your .Mac account at regular intervals.

CHUCK TOPOREK is the author of *Mac OS X Tiger Pocket Guide* (O'Reilly, 2005) and *Inside .Mac* (O'Reilly, 2004).

UNIX

It may not have the wow factor of Automator or Spotlight, but OS X's Unix plumbing has been given a major makeover.

The biggest change for casual command-line users is the compatibility of Unix tools like mv and cp, (move and copy, respectively) with HFS+ structures. So now, if you need to move files with resource forks—such as program files—you can do so without special tools such as MvMac or CpMac.

For developers, the changes are more substantial. The new 64-bit support in Tiger, for example, means that they can implement 64-bit support at the Unix level. Most of that 64-bit support is at the *engine* level, not the window level. So the core system libraries—such as libsystem—are 64-bit, but Cocoa and Carbon libraries and frameworks are not. As Apple introduces 64-bit support at the Carbon and Cocoa levels, developers will gradually be able to implement it in the higher levels of their apps.

The developer tools have gained some critical new features. For anyone building Unix applications, OS X 10.4 ships with the GCC 4.0 compiler collection, which supports C, C++, Objective-C, and other programming languages. Xcode 2.0 lets you model your code in a visual mode, so you can see the structure of your code outside of the code itself. This is most evident in the new Core Data features, which allow you to graph your database design, and have Xcode use that graph to create the database structures for you to use.

Core Data also lets you drop a database entity that you create in Xcode onto Interface Builder, which can then use that to create a prototype user interface for you. Since Apple is embedding the SQLite database engine in Tiger, between that and Core Data, database developers will be looking at the Mac in a whole new light.—JOHN C. WELCH

JOHN C. WELCH is a columnist for *MacTech* magazine.

HOW TO MAKE THE UPGRADE

You've just arrived home with your copy of Tiger, and you immediately tear off the shrink wrap. You're raring to set up your new OS. But first, stop and think for a moment: What should you do before you start the upgrade? How should you do the upgrade itself? Here's my advice for making your move to Tiger as smooth as possible.

1 BACK UP YOUR HARD DRIVE

Backing up is always good advice, but never more so than now. After you upgrade, you may discover that Tiger has some bugs serious enough to force a temporary retreat, back to Panther until the bugs are fixed.

There are plenty of excellent backup apps, as well as programs that'll clone your entire drive. My favorite among the latter is Shirt Pocket's SuperDuper ($20; macworld.com/0536). It sports a unique Safety Clone feature that creates versions of your old (Panther) and new (Tiger) systems on two separate volumes. Both systems remain current with the files in your Home folder, so you can easily revert back to Panther if you need to.

If you don't want to clone your entire drive, at least make sure you back up your Home folder, just in case disaster strikes while you're installing Tiger. Similarly, make sure you have the original discs and serial numbers for (or backups of) all your third-party software readily available.

2 CONSIDER PARTITIONING YOUR DRIVE

If your Mac's hard drive has more than one partition, you can install Tiger on one of them while leaving your current Panther system installed on the other. This gives you the opportunity to test out Tiger before you commit to it. (SuperDuper's Safety Clone feature works best if your drive has at least two partitions.)

If your drive currently has only one partition, don't worry. With software such as Coriolis Systems' iPartition ($45; macworld.com/0271) or Prosoft Engineering's Drive Genius ($99; macworld.com/0537), you can partition a drive without having to erase it. (For more details on partitioning, see our May 2005 *Geek Factor* column, at macworld.com/0538.)

Of course, if you own a second hard drive, you can install Tiger on it instead of on a separate partition.

Super Smart Using the SuperDuper utility, you can safely clone your old drive before you upgrade to Tiger.

CORE IMAGE

If you remember when Apple released Panther, you might recall the arrival of Core Audio and Core MIDI. Those two technologies introduced low-level architectural changes that audio applications, such as Apple's Logic, could exploit.

Apple has pulled off much the same trick in Tiger, only this time with graphics. OS X 10.4 adds Core Image technology, which gives developers easier access to pixel-level effects than they had in previous versions of OS X. It also offers a new way to create such effects.

More specifically, Core Image lets apps take advantage of the speedy, programmable graphics processing units, or GPUs, in today's ATI and Nvidia video cards. If your video card doesn't have a programmable GPU, Core Image makes more efficient use of your CPU by adjusting for Velocity Engine and dual processors.

Core Image relies on Image Units, its plug-in architecture for accessing filters, transitions, and effects. There are about 100 Image Units included with Tiger, along with blurs, color blends, sharpeners, gradients, transitions, halftones, and distortions. Developers can tap into these filters without having to write their own; they can also create new ones that will work across applications.

While all of the Core technologies (Core Audio, Core Image, and Core Video) are clearly targeted at developers, end-users ultimately benefit as well. Core Image creates a new standard for graphics plug-ins that your apps can exploit, and makes better use of the fast new graphics cards included in Macs.

As Tiger ships, Core Image is supported on ATI Mobility's Radeon 9700, Radeon 9600 XT, 9800 XT, and X800 XT cards, and on Nvidia's GeForce FX Go 5200, GeForce FX 5200 Ultra, and GeForce 6800 Ultra DDL and 6800 GT DDL cards. Look for Core Image support to appear in other cards with programmable GPUs in the future.—JONATHAN SEFF

3 INSTALL TIGER

You're now ready to boot from the Tiger disc and run the Installer. There are two ways to do this.

If you're upgrading a drive that is currently running Panther, the Installer's default selection will be Upgrade. This means it'll modify or delete existing Panther files as needed, installing the Tiger versions as replacements.

Custom Installation Click on the Option button in the Installer's Select a Destination screen to select a different type of installation.

You do have another choice. If you click on the Option button in the Installer's Select A Destination screen, you can select Archive And Install. With this option, all of Panther is moved to a separate folder called Previous Systems, and a completely new installation of Tiger is put in its place.

I strongly recommend an Archive And Install installation (selecting the option to preserve your Home directory and Network settings) over Upgrade. While the Upgrade installation generally works well, it can lead to problems. If, for example, you've modified or moved any OS X files, the Installer won't be able to upgrade them properly.

4 GIVE TIGER A TEST RUN

After starting up with Tiger, check to make sure all the basic features of the OS are working. In particular, check out whether your Internet connection is active and whether the Finder's features are working as expected. If you run into problems that you can't resolve, go to the Macworld.com forums or other Mac-user Web sites to see if others have reported the same issue or can provide a solution. If not, try reinstalling Tiger. If even that fails, you may want to revert to Panther until you can figure out what went wrong and how to fix it.

5 GIVE YOUR APPS A TEST RUN

Assuming that Tiger passed its initial test, now's the time to check that all your third-party programs are working. If the program required a serial number when you first installed it, enter it again. In some cases, you may have to completely reinstall a program to get it running again.

Finally, some programs may need to be updated to work with Tiger. If so, the vendor (hopefully) either has already released an update or plans to do so soon. To check, go to the vendor's Web site or to a more general software-update site such as VersionTracker (www.versiontracker.com).

6 ENJOY!

It's time to experience Tiger! What are you waiting for?—TED LANDAU

TED LANDAU is a *Macworld* contributing editor.

Add a Double-Layer DVD Burner to Your eMac

Apple's eMac provides a lot of bang for the buck. But you can add an even bigger bang for less than $100: a modern optical drive capable of recording double-layer DVDs. By adding one of these drives to your Mac, you'll be able to create DVDs that can hold as much as 8.5GB of data—almost twice what a single-layer DVD can (see "Double Your Pleasure").

From the outside, the eMac appears to be impenetrable. Not so. All you need are the proper tools, a measure of patience, and our guidance. (You can perform this upgrade on many other Macs as well. See "New Options for Older Macs.")

Keep in mind that these instructions apply to the current eMac—known as the eMac (USB 2.0)—and the previous eMac (ATI Graphics) models. Disassembling the original eMac, which was sold between April 2002 and May 2003, requires a couple of extra steps—including removing the speakers and the fan assembly.

When you're shopping for an internal DVD burner, look for one made by Pioneer. Its drives offer the greatest compatibility with the Mac operating system, and recent versions don't require the kind of firmware updates that other drives demand. Pioneer's current SuperDrive is the DVR-109, which can burn both single- and double-layer DVDs. □

Warning! If you suspect that anything in these instructions is beyond your abilities, *do not* attempt to upgrade your eMac. Have a tinker-happy friend or a qualified computer technician do it for you. The computer's CRT display can store lethal amounts of electricity even when the eMac is unplugged. Although this project won't get you too close to the display components, you should avoid playing around unnecessarily inside your eMac. If you monkey with the wrong parts, bad things could happen—the *least* of which is that you'll destroy your computer.

Contributing Editor CHRISTOPHER BREEN is also the editor in chief of Playlistmag.com.

What You'll Need:
> #2 Phillips screwdriver
> 2.5mm hex screwdriver
> Needle-nose pliers
> Optical drive (we used a Pioneer DVR-108, from Other World Computing)

1 Make the eMac Comfy

Shut down the eMac and unplug anything connected to it (power, USB, Ethernet, and FireWire cables, for example). To be ultrasafe, leave the eMac unplugged for 24 hours so any electricity held in the CRT has time to dissipate. Place the eMac monitor-side down on a towel or carpet to protect the screen from scratches. Turn it so the user-access door faces you.

2 Remove the User-Access Door

Using the Phillips screwdriver, unscrew the single screw A holding the user-access door in place, and put the door aside. If there's an AirPort card installed, detach its antenna cable, pull the card from its slot, and set it aside.

PHOTOGRAPHS BY PETER BELANGER

3 Unscrew the Case

Below the user-access door opening, you'll see two plastic feet held in place by Phillips screws B. These screws also help hold the case together. Remove the screws and put the feet aside.

Next, use the hex screwdriver to remove the hex screw C between the two feet, just below the door opening.

Two similar hex screws appear on each of the remaining three sides of the eMac's case. Remove these screws as well.

4 Lift Off the Case

With the user-access door opening facing you, carefully lift the case about two inches straight up. Look in through the door and find the power-button cable attached to the left side of the case D. Take note of which way the power-button cable bends (this will help you reattach it when you're done).

Now reach in through the user-access door opening and carefully detach the power-button cable.

Caution: Be sure to pull the connector straight out, not out at an angle. The plastic surrounding the connector is brittle.

Once you've disconnected the power-button cable, lift the case straight up and put it aside.

5 Remove the Faraday Plate

On the bottom of the eMac, you'll see a large metal plate. This is the Faraday plate, which covers the media drive.

Remove the four Phillips screws E holding the Faraday plate in place. Before you remove the plate, note how the gray cable above the plate F is arranged (you'll need to duplicate this later when you replace the plate).

Gently pull the top of the plate toward you, creating an inch-wide gap. Push the plate down to unhook the metal tabs at the bottom of the plate. Then pull the plate toward you and lift it out.

Double Your Pleasure

Double-layer DVDs (sometimes referred to as *dual-layer* or *DVD9* discs) are nothing new. Hollywood has been using such discs for years to hold not only full-length blockbusters, but also scads of bonus material. What *is* new is the introduction of inexpensive, Mac-compatible DVD drives capable of recording double-layer discs.

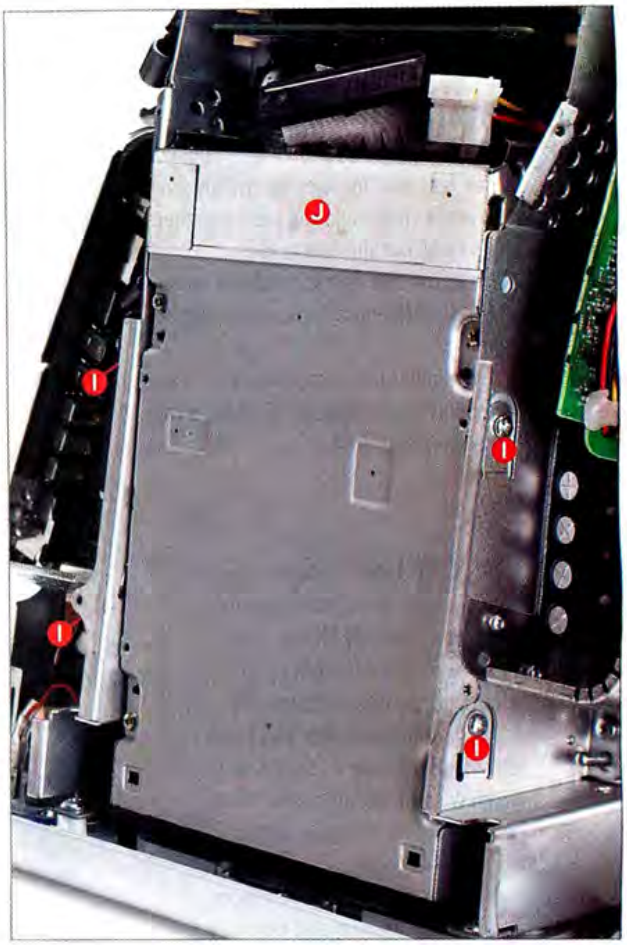
The advantage of these drives is that they can burn almost twice as much data as a single-layer drive. This makes their discs not only useful for data backups, but also a great way to store higher-quality video—with more room, you can forgo compressing your video.

So how does it work? Double-layer DVDs have two recordable dye layers separated by a spacer. The drive burns the innermost layer—from the inside of the disc to the outer edge—using a low-energy beam. The burner then refocuses the beam and burns the outer layer from the outside edge in.

Double-layer DVDs are compatible with nearly all consumer DVD players. But they're not inexpensive. Single-layer DVDs in bulk cost less than $1 per disc, while double-layer DVDs cost around $8 per disc.

Another disadvantage of double-layer burning is that its support on the Mac is limited. iDVD 5.0.1 supports double-layer burning only with Pioneer 109 drives. DVD Studio Pro 3.0.2 (and later) *is* compatible with all double-layer systems. Your other option is to use third-party software such as Roxio's Toast 6 ($100; www.roxio.com) or later, which does support burning to double-layer media on the Mac.

continues



6 Remove the Optical Drive

Disconnect the long black data-cable connector G and multicolored power connector H from the back of the optical drive. If you have trouble removing the power connector by hand, use needle-nose pliers on either edge of the connector and pull it straight up.

The optical drive is held in place by four Phillips screws—two I on either side of the drive bracket. Remove these screws and set them aside. Pull the drive toward you and remove it.

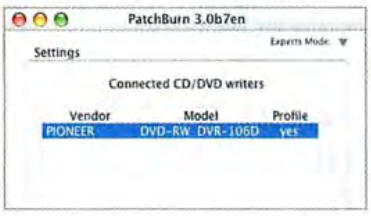
Finally, remove the EMI shield J from the end of the old drive and place it on the end of the new drive.

7 Reassemble the eMac

To reassemble the computer, follow the previous steps in reverse order. To replace the Faraday plate, insert the bottom first. Next, lift the plate until the tabs at the bottom of the plate fit into the cutouts on the eMac's chassis. Then push the top of the plate into position and screw in the four screws.

Replacing the power-button cable is perhaps the trickiest part of this project. You have to slip your right hand in through the user-access door opening between the chassis and case while holding the case with your left hand. People with large hands will find this a difficult fit. Before you reattach the power-button connector, be sure it's oriented correctly. (If you push the connector in upside down, you could bend the three small pins in the receptacle—making it impossible to connect the two without first straightening these fragile pins.) Then push the connector straight into the receptacle.

8 Configure the New Media Drive



If you're running OS X 10.4 with Apple's iLife programs, the system should recognize the double-layer burner. If you're running an earlier version of OS X, it won't. To change this, you'll need to install Christian Moeller's free PatchBurn utility (www.patchburn.de). PatchBurn alters OS X's built-in CD and DVD drivers to make them recognize unsupported single- and double-layer burners.

Reattach the eMac's cables, start it, and then download and install PatchBurn. When you restart your computer, you should be able to use your new media drive to burn discs in the Finder, iTunes, iPhoto, and iDVD. But keep in mind that you'll need additional software to burn double-layer discs.

New Options for Older Macs

Of course, eMacs aren't the only systems in which you can install a new double-layer DVD burner. You can upgrade your laptop, desktop, or even your Mac mini with one of these new optical drives.

Other World Computing sells a wide range of double-layer drives, including those for the iMac G5 and the Mac mini (macworld.com/0539). MCE Technologies (macworld.com/0540) also sells internal drives for a range of laptops. However, if you want to upgrade an iBook, you'll have to send the computer to MCE, who'll do the work.

If you're doing the job yourself, here are some resources that will help you make the switch:

First-Generation G4 For step-by-step instructions on installing a DVD burner in a first-generation G4, go to macworld.com/0567.

PowerBook G4 You can download in-depth assembly guides for PowerBook G4s—and many other laptop models—at PB FixIt (www.pbfixit.com). This very useful site offers a series of free downloadable PDFs and online tutorials for replacing just about any part in your laptop.—KELLY LUNSFORD

PHOTOGRAPHS BY PETER BELANGER

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Solve Font Problems

Most mortals, with the exception of graphic designers, almost never think about fonts. But ignoring your fonts can lead to trouble. Font mishaps can be the source of mysterious application and computer crashes, slowdowns, poorly substituted fonts in print, and other perplexing problems. Just one corrupt font can be very bad news.

The New Font Order introduced in OS X made font handling—always tricky at best—even more complex. (For a basic OS X primer, see "End Font Frustration," at macworld.com/0423.) Here's how to diagnose and solve some of the most common problems.

The Doubting Deleter

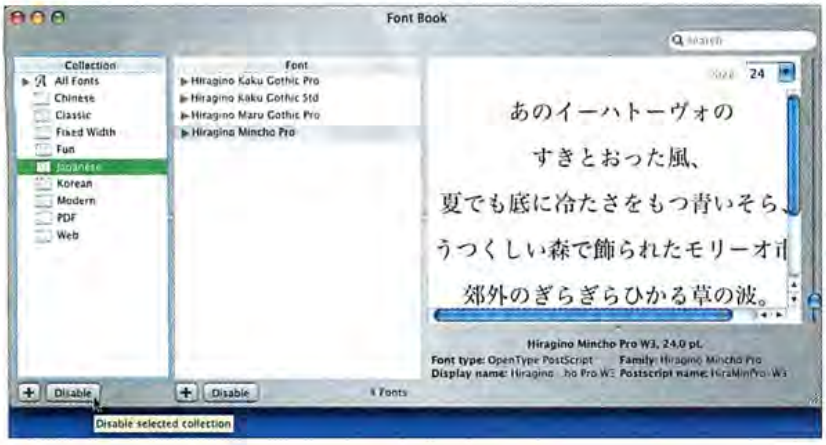
I removed some fonts from my Font folder to shorten my Font menus. Now my Mac crashes on startup. What happened?

You may have removed fonts with names you didn't recognize or fonts you don't use from your /System/Library/Fonts folder. Unfortunately, Mac OS *requires* some of those fonts in order to function properly.

If you remove LucidaGrande.dfont, for example, your system won't boot. By the same token, some programs (Address Book, for one) need Helvetica to display text correctly. OS X must have the following fonts: the AquaKana.otf family, Keyboard.dfont, LastResort .dfont (a special font used to show missing characters in other fonts), and LucidaGrande.dfont (the font most of the system uses for menus and dialog boxes).

If you work in the Classic environment at all, make sure you don't delete Charcoal, Chicago, Geneva, Monaco, or New York from Classic's Fonts folder (OS 9 System Folder/Fonts).

Basically, deleting fonts that come with OS X (especially anything in /System/Library/Fonts) is dangerous. The safer route is to *deactivate* the ones you don't use. See the next section for details.



Sayonara, Seldom-Used Fonts Tired of foreign-language fonts clogging your menus? It's easy to disable them with Panther's (or Tiger's) Font Book application.

Massive Font Menus

My Font menu is huge and unwieldy. Is there a safe way to remove fonts and confine my choices to the ones I use?

The easy, free way to depopulate your Font menu is to use Font Book (in your Applications folder). Font Book offers a friendly interface that lets you view fonts individually or in family groups—for example, Arial italic, bold, and regular. Most important, Font Book can deactivate fonts. In other words, instead of deleting a font from the operating system, Font Book simply removes it from your Font menus.

You could use Font Book to deactivate those foreign-language fonts you never use (see "Sayonara, Seldom-Used Fonts"), for instance. Here's how:

1. Launch Font Book.
2. You'll see a Collection column, a Font column, and a preview window. From here you can see each font individually or within its collection. For instance, you'll see Korean, which includes six fonts, and Japanese, which includes four.
3. You can deactivate these fonts one by one, shift-click to select a contiguous group to deactivate, or option-click to select a group of individual fonts. After you make your selection, click on the Disable button (in Tiger, click on the check-box icon). In the dialog box that appears, click on Disable again. In Panther, you can also disable an entire collection by selecting Font Book: Preferences and then activating the Disabling A Collection Turns Off All Fonts In The Collection option. In Tiger, select the collection and choose Edit: Disable *collection name*.

The fonts won't disappear from most Font menus until you close and relaunch your programs. If you ever need to write a note in Japanese, return to Font Book and follow these steps again, but you'll instead click on the Enable button to reactivate the needed font.

Where'd Everything Go?

When I open Font Book, I can't see some of the fonts I've installed. What's going on?

While Font Book gives you a lot of control over activating and deactivating fonts, it won't display fonts you've installed with other type managers. If you work primarily in Apple's TextEdit, Mail, Pages, or Keynote, then use OS X's Font panel to view and organize your fonts. This sophisticated font viewer appears only in Apple's OS X–native applications and a few other applications that support it. In addition to letting you view fonts, the Font panel lets you organize fonts into collections, as well as select and manage them so you can find and use them easily.

To access the Font panel in TextEdit, for example, select Format: Fonts: Show Font. The Font panel will appear.

Apple has created some default collections for you, such as Classic, Fixed Width, Fun, and Modern. You can add, delete, and replace collections at will. Here's how to create a new collection:

1. In the Collections column, click on the plus-sign button (+). A new, unnamed collection will appear in the column. Name it anything you want.
2. Select the All Fonts collection at the top of the column. In the middle column, you'll see all the enabled fonts in your system.
3. Select the fonts you want in your new collection and then drag and drop them onto the collection you just made. It doesn't matter if they're activated. When you click on your new collection icon, you'll see the fonts you moved.

Porting PC Fonts

I've just switched to the Mac from Windows. How do I rebuild my font collection?

The good news is that you don't have to. In OS X 10.2 and later, your Mac can display Windows fonts as easily as Mac fonts. In the past, the major incompatibility between Mac and Windows fonts was that Mac font files included both a data fork and a resource fork—Windows files have only a data fork. As of OS X, however, Apple created a new font format, dfont (or data-fork TrueType font), which stores all its resources in the data fork. So OS X can now display Windows TrueType and Unix fonts as well as all Mac and OpenType fonts. And you can install all the fonts from those megafont CDs with no worries.

Mysterious Crashes

My system keeps freezing and hanging, my apps crash for no reason, and everything is running slowly. I fixed my permissions, ran a diagnostic utility, and updated my virus definitions. But none of this has helped. What's wrong?

Corrupt fonts or font caches may be to blame (see "Take Out the Cache" for information about cache problems). System crashes and other troubles with your hard drive or operating system can cause font corruption. Crashes are particularly damaging to fonts, and since your fonts are open during a crash, any document you're working on, and the fonts associated with it, can become corrupted. It's all too easy to overlook font corruption as a potential problem, but your computer's performance will suffer until you figure it out and fix it.

While there are fewer instances of corrupt fonts in OS X, legacy fonts from earlier Mac operating systems, and fonts from nonstandard vendors, can still cause problems. OS X checks automatically and deactivates fonts that look corrupt. But the only way to *repair* them is to buy and run a third-party font-repair utility. Many commercial packages are available, and most offer demo versions so you can try them out (see macworld.com/0424 for a list of all recent reviews). □

JACKIE DOVE is *Macworld*'s senior associate editor.

Take Out the Cache

Are you experiencing garbled text, fonts that refuse to delete, or application crashes? Your problem may not reside within the fonts themselves—it may be within their cache files. OS X uses these files to keep track of the fonts you've installed and the characters each one uses. If the cache files become corrupt, you've got trouble in font city.

Happily, the solution is simple: delete the cache files. When you do, OS X creates new, uncorrupted copies with default settings. You can either let a third-party utility do this for you or take the do-it-yourself approach.

A Helping Hand If you prefer having a utility take out the trash for you, I recommend Font Finagler ($10; macworld.com/0426). This utility creates a list of all the relevant cache files on your drive and then lets you delete them with the click of a button.

DIY Details To do it yourself, locate the cache files in the Finder and drag them to the Trash. It's that simple. In some cases, you'll need an administrator's password. Here are the items to mark for extinction (and where you'll find them):

> **com.apple.ATS.plist:** This file is located in */your user folder*/Library/Preferences. Among other things, it contains information about which fonts you've disabled via Font Book. Deleting this file will likely reactivate disabled fonts.

> **com.apple.ATS:** This folder is located in /Library/Caches. Delete it along with all its contents.

> **fontTablesAnnex:** This file is located in /System/Library/Caches; if it's corrupted, it's the likeliest cause of garbled text. Delete it.

> **Office Font Cache:** This file is located in */your user folder*/Library/Preferences/Microsoft. Delete it if your font troubles are restricted to Microsoft Office applications.

> **All other files whose names include *.ATS* or *font*:** These are located in the /System/Library/Caches folder. The com.apple.ATS.System.fcache and com.apple.ATSServer.FODB_System files are the most important ones to delete. But it can't hurt to get rid of all of them.

Whichever method you choose, restart your Mac after deleting the cache files. That's the best way to make sure OS X immediately and correctly creates new files. If a corrupt font is actually causing your problem, eliminating the cache files won't help—but cleaning out your font caches is often effective and certainly easy. So before hassling with your fonts, give it a try.—TED LANDAU

GO TO WEB:

If you have 15 copies of Helvetica and aren't sure why or what to do, we can help. Go to macworld.com/0425 to learn how to deal with vexing duplicate fonts.

ICON BY PAUL HOWALT

Corral Your Classical Music

If you're a fan of classical music, then you've probably, at some point, become frustrated with iTunes and the iPod. Track information from the Web is inconsistent, pieces are difficult to tag and categorize, and imported songs don't flow seamlessly into one another. But you can have your Mozart and enjoy it, too, with these simple tips.

playlist

Want more tips on digital music? For iPod- and iTunes-related expert advice and breaking news, as well as reviews of all the latest gadgets, check out playlistmag.com.

Eliminating Gaps

Most audio players—the iPod included—can't play music without gaps between the tracks. For many types of music, this isn't a major problem. But for classical music (especially opera), it can be a deal breaker. Even a short blip between a recitative and an aria is enough to ruin the effect of G. F. Handel's greatest works for the stage.

For listening in iTunes, you can turn on Crossfade Playback (in iTunes' Audio preferences) and set it to 0 seconds—that does a pretty good job of keeping the flow. But a better workaround for iTunes and iPod playback is to combine multiple tracks into one. When you're importing a CD, select a group of tracks and choose Join CD Tracks from the Advanced menu—this will cause iTunes to join those tracks into one long music file upon import. iTunes displays the tracks with a vertical bracket indicating that they're to be joined (see "Join In").

	Song Name	Time	Composer	Artist	Album
1	I	12:43	Gustav Mahler	NDR Sinfonieorchester, Kyrill Kondrashin	Mahler Sinfonie Nr.1
2	II	8:10	Gustav Mahler	NDR Sinfonieorchester, Kyrill Kondrashin	Mahler Sinfonie Nr.1
3	III	9:37	Gustav Mahler	NDR Sinfonieorchester, Kyrill Kondrashin	Mahler Sinfonie Nr.1
4	IV	17:46	Gustav Mahler	NDR Sinfonieorchester, Kyrill Kondrashin	Mahler Sinfonie Nr.1

Join In The Join CD Tracks command helps you combine several tracks into one, so iTunes won't create those distracting small gaps between songs or play pieces out of order.

You can combine an entire CD or just parts of it. Say you want to import a symphony as one track, but the CD contains two symphonies. Select the tracks of the first and join them, and then do the same for the second—when you import the CD, each symphony will be a single, free-flowing track. The downside is that you lose the ability to listen to individual movements or arias without scrubbing through a file.

If you've purchased music from the iTunes Music Store, or if you've already ripped your CDs as individual tracks and don't want to rip them again, then you have a few options. Jack Gill's Track Splicer AppleScript (macworld.com/0470) lets you join unprotected tracks in iTunes (as long as they have the same format and bit rate). Alternatively, you can burn an audio CD from protected files and then reimport the tracks, joining the ones you want to. The second method may mean you lose some quality, but if you reimport tracks at the same bit rate, the loss should be negligible.

Tagging Classical Music

Having correct tags for your music is essential. As long as you have Connect To Internet When Needed selected in iTunes' General preferences, iTunes searches the online Gracenote CD Database for artist, album, and track information when you insert a CD. The problem is that when you're dealing with classical music, this information is often wrong or incomplete, or the tags show up in the wrong fields. To best manage your music, you'll need to do some tweaking.

Many classical CDs show up as compilations. While many classical albums may actually *be* compilations, where the artists listed change from one piece to another, it isn't always useful to classify them that way. So start by nuking the compilation tag. Select all the tracks on an album (either before or after importing), and then select File: Get Info. In the Multiple Song Information window, set the pop-up menu below Part Of A Compilation to No, and then click on OK.

Changing Track Names Since the database often returns incorrect track names for classical CDs, you need to change these manually. In some cases they're blank, and in others they're totally useless: for instance, you may find Symphony No. 5 listed for all the tracks of that symphony. You may even find that the track names appear in the artist tags or in other odd places. Click on a track to select it and then press enter; or select a track and use File: Get Info to access the Info tab and alter the information.

Choosing the Correct Artist One of the best ways to search for music is by artist, but the artist tag doesn't have to be the actual performer. Since iTunes lets you browse only by genre, artist, and album, it can be useful to change the artist tag to the composer's name; this way you can browse, say, all of your Schubert music by looking for his name in the Artist column. On the iPod, you can browse by composer, but if you

continues

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Instructions and needed tools are included with all iPod battery replacement kits. In addition, online videos let you watch how it's done at www.macsales.com/ipod

We also offer a battery installation service. For a cost of $49 and the cost of the battery you choose, a proper box with a pre-addressed return overnight airbill can be sent. You simply place your iPod and this package will be delivered overnight to our technicians. Within 24hrs the new battery will be installed and your iPod will be on its way back via overnight service. You get your same iPod back, quickly -safely - and with a battery that will last far longer than what you had stock.

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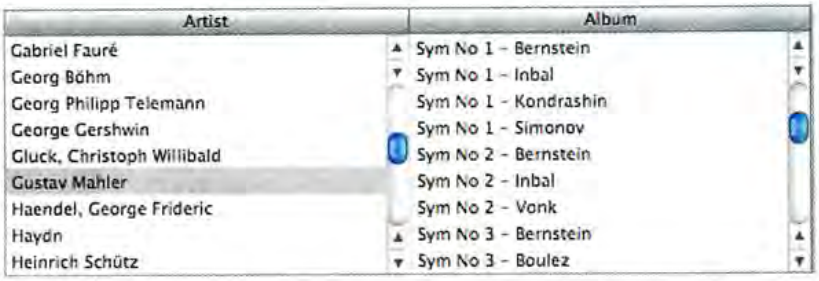

The Name Game By streamlining and standardizing album names, you'll have a better musical experience with iTunes and the iPod.

want to organize your library in iTunes before syncing to the iPod, it helps to have the option to list music by composer.

You may want to leave the artist's name as is: this lets you see, for example, all your recordings of Yo-Yo Ma at a glance. However, this can get a bit confusing when the name of a symphony orchestra and conductor shows up in several different ways: the New York Philharmonic, conducted by Leonard Bernstein, could appear as Leonard Bernstein and New York Philharmonic; New York Philharmonic and Leonard Bernstein; Leonard Bernstein, New York Philharmonic [and other performers]; or NY Philharmonic and Leonard Bernstein.

All these tags mean the same thing (except in the case of discs containing additional performers). Take the time to standardize them: choose the one you prefer (or create your own, such as NYP/Bernstein), and set this tag for all your recordings featuring this orchestra and conductor. Select multiple tracks, press ⌘-I, and change the artist tag accordingly.

Whichever solution you choose—actual performers' names or composers—pay close attention to the spelling and ordering of these names: as far as iTunes and the iPod are concerned, Johann Sebastian Bach is not the same as J. S. Bach; or Bach, Johann S.; or Bach, J. S.

Tagging Works Another way to tag your music is to change the album name to reflect the title of an individual work. Let's say you have a CD of Charles Ives's Concord Sonata, but it also contains a handful of other songs. Select the four tracks of the sonata and then set their album name to Concord Sonata (even adding the performer's name after that, if you want). Tag the remaining songs with something different so a search turns up only the tracks you're looking for.

Longer names of works can be problematic. For example, you could name a favorite recording of Mahler's Third Symphony something like Symphony No. 3 - Bernstein to separate it from other versions you may have. But the iPod display doesn't show enough text when you browse—you'll see Symphony No. 3, but not the conductor's name. If you have a lot of symphonies, and especially if you have multiple versions of some works, you'll want to shorten their names: Sym No 3 - Bernstein, for example, is more iPod-friendly (see "The Name Game").

Getting the Genre Right All classical music is in the Classical genre, right? Well, not really. If you're a fan, you know it has plenty of subgenres that can make it easier to organize your music. For example, should you classify a piece as Symphonic, Chamber Music, Piano, Lieder, or Opera? Would you like to be able to browse your library by Recitals, Baroque Music, or Organ Music? It's a piece of cake. Just select a group of tracks, press ⌘-I, and type your own genre name in the Genre field. You can now browse your music more effectively both in iTunes and on the iPod.

Adding Comments The Comments field is a catchall area for any tagging information that doesn't fit elsewhere—a place to note the soloists for an opera or the recording date of a performance (rather than the CD's release date). You can also add keywords useful for creating smart playlists. Say you have a lot of string quartets; add the words *string quartet* to the Comments field, and you can create a smart playlist that looks for tracks whose comments contain those words. Do the same for organ, viola da gamba, and other instruments.

Curtain Call

With a helping hand, the iPod and iTunes can be a great medium for organizing classical music. Once you realize how to overcome their constraints and discover the best ways to import and organize your music, you'll never look back. You may use your CDs only one more time—to import them into iTunes—and then in the future turn to your iPod for all your classical music listening. □

KIRK McELHEARN is the author of several books, including *iPod & iTunes Garage* (Prentice Hall, 2004). He also reviews early and baroque music for MusicWeb (www.musicweb-international.com).

Get Small

Many audiophiles turn up their noses at the idea of listening to compressed music. But at 10MB per minute, uncompressed audio isn't typically a viable option. Even the Apple Lossless Encoder, which can reduce files to between 40 and 60 percent of their original size, still produces large files (lossless compression creates smaller files, but doesn't compromise sound quality to do so).

Unless you have a very small library of music and a very large iPod, you're going to have to accept AAC or MP3 as your musical file format. There are things you can do to make the music sound better. iTunes' default AAC bit rate is 128 Kbps. While this is appropriate for some music, it's not ideal for classical. Importing files as 160-Kbps AAC files will make a noticeable difference—these files sound very good even on high-quality stereo equipment. If you prefer MP3 (and you also have a non-iPod music player or use a music-streaming server in your house), then you should go to at least 192 Kbps—AAC files generally sound better than MP3 files at the same bit rate, so it's worth the slightly larger file size.

If your ears are truly golden, you can go with the maximum bit rate for AAC or MP3 files. I defy anyone to tell the difference between files compressed at 320 Kbps and original CDs. And at 2.3MB per minute, you can still fit more than 3.5 hours of music on the smaller iPod shuffle, and nearly 450 hours of music on a 60GB iPod photo.

iPod is already your essential music companion when you're on the move, with the i-Station an ultra-portable docking and 2.1 speaker system from Logic3, you can now play your favorite tracks out loud in the comfort of your home. With its stylish design, compact size and its powerful sub-woofer speakers (12 Watts RMS) turn your iPod into a powerful and convenient sound system for every occasion. The dock, which fits the iPod, iPod mini & iPod Photo, even recharges the iPod battery while it plays, leaving you to enjoy your music. i-Station can be synchronized with your PC or Mac via USB or FireWire (cables included) and can also be used with other portable audio devices such as iPod Shuffle, MP3, MiniDisc and CD players.

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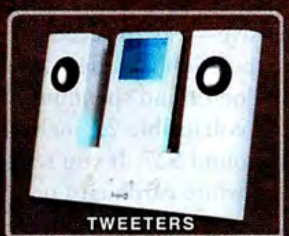

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Great Portraits Made Easy

Your sister covers her face if you point a camera at her, and your dad hides in the garage whenever you even mention a family portrait. Why are so many people shy in front of a camera? It's often because they've rarely seen good pictures of themselves. The fact is, many photographers haven't learned the fundamentals of taking flattering portraits—but you can master these tricks with just a little practice.

To take a good portrait, you need to understand lighting. Good lighting can accentuate a subject's best features while minimizing flaws. Bad lighting will do just the opposite. How you harness the power of lighting will depend on the tools at your disposal and the amount of work you're willing to put into the setup. The rewards are well worth the extra effort.

Use Front Lighting

Many amateur photographers rely on a single light source for their portraits—typically the sun or a nearby lamp. The problem is that this lighting often hits the subject at an angle, creating harsh shadows that accentuate texture. This is great when shooting an adobe mission, but not so hot for pictures of your mom. A single light source from the left, right, or above gives wrinkles more definition, eye sockets more depth, and the nose Pinocchio-like proportions. Is this how you want to photograph your loved ones?

If you have only one source of light, make sure it's coming from in front of your subject—ideally from your camera's flash. Front lighting flattens out noses, illuminates eye sockets, and diminishes wrinkles (see "Out of the Shadows").

Out of the Shadows Outdoor lighting can be unflattering for the prettiest of subjects. By turning on your flash, you can put a sparkle in the eyes and downplay imperfections.

The best way to set up this type of portrait is to take your subjects outdoors and put them in an area of open shade with even lighting (for instance, under a tree). This has the added benefit of keeping the sun out of the subjects' eyes. Switch your camera to Program mode—usually represented by a *P*—and then force your flash to fire. Many cameras refer to this as a *fill flash*. Program mode automatically balances the light from the flash with the background light, so the camera won't overdo it. (If your camera doesn't have this mode, try the Portrait mode instead.) Note the effective range of your flash. If it's good for 10 feet and you stand 15 feet away, you may be disappointed with the results.

Bounce the Light Here, the main light is coming from the right. A reflector positioned on the left bounces light onto the subject's face, for a more pleasing portrait.

Reflect Your Light

Side lighting is worrisome mainly when it's the *only* light source. But when combined with a second, softer light source from the opposite side of the subject, side lighting actually becomes more flattering than front lighting.

The easiest—and least-expensive—way to accomplish this balancing act is to position a reflector opposite the main light. If you don't mind spending a few bucks, you can pick up a collapsible 22-inch Photoflex LiteDisc online for around $27. If you're not in the spending mood, then white cardboard or foam core works just as well. For a more portable option, pick up a foldable sunshade from your local auto supply store.

You'll need a second pair of hands for this technique. If you're going solo, you may want to consider investing in a LiteDisc Holder (around $50) or building your own rig (see "Reflections").

Say you're shooting a portrait indoors with window lighting from the right (see "Bounce the Light"). You would position the reflector on the left so the light is bouncing right into the subject's face.

The nice thing about reflectors is that they provide a soft fill light without your having to invest in a second flash and deal with lighting ratios, dead batteries, and other flash-related annoyances. With a reflector, you just get it positioned and shoot away. The results are usually quite flattering.

Use Two Light Sources

For the greatest amount of control over your indoor portraits, use two different light sources. This will let you customize the lighting to best flatter your subject.

If your camera has a hot-shoe for an external flash, you can quickly set up professional portrait lighting just about anywhere, with the help of wireless flashes. Both Canon and Nikon offer great wireless flash systems. For example, you can get two Canon 420EX Speedlite flashes and one Canon ST-E2 wireless transmitter for around $600.

Insert the transmitter into the camera's hot-shoe and position the two flashes anywhere you'd like. When you press the shutter button, the transmitter causes the flashes to fire until just the right amount of light has exposed the subject, and then it turns them off. The 420EX Speedlites even come with little adapter feet so you can set them on furniture or attach them to a light stand. All three pieces will fit in a large camera bag along with your other lenses and accessories, so they're very portable.

How you arrange the flashes will depend on your subject—many times, having the same amount of light on both sides can cause a person's face to look too full. A little graduation is good, and it can be slimming (see "Lighten Up"). To create this effect, place your main flash at a slight angle about five feet from your subject. Then use the second flash as a fill light by placing it farther away on the other side—perhaps eight feet.

On the other hand, if the subject has a very narrow face, you might want to position the flashes at equal distances and angles to broaden his or her features. The great thing about digital cameras is that you can make your best guess for the lighting setup, take a few test shots, and then review them on the LCD screen. After a few adjustments, you should be able to create the best possible lighting for your subject.

It's a Wrap!

With a little preparation and practice, you can capture portraits that will bring smiles to your subjects' faces. And who knows—this could lead to the perfect part-time job (one that'll pay for your next camera). □

DERRICK STORY (www.storyphoto.com) is a coauthor of *iPhoto 5: The Missing Manual* (O'Reilly Media, 2005) and the author of *Digital Photography Pocket Guide*, second edition (O'Reilly Media, 2004). He's also the editor of O'Reilly Media's MacDevCenter.com.

Model Management

So far I've focused on the technical aspects of portraiture. But just as there's more to being a good nurse than taking blood pressure, your *camera-side manner* is a vital aspect of successful pictures.

> **Find the Best Side** Shooting angles work in concert with lighting to create flattering portraits. By shooting from slightly above your model, for example, you can hide a double chin and emphasize eyes. Turning the model's shoulders slightly to one side creates a slimming effect.

Digital cameras make posing so much easier. Start with your best guess for positioning your model. Take a few shots, and then review them on the LCD screen. Often a subtle posing change can make all the difference.

> **Keep Them Relaxed** Start a conversation before you actually start shooting. I like to inquire about a person's interests while setting up the lighting and testing the camera. That always makes people more comfortable.

> **Give Them a Preview** For the first few frames, I always say, "I'm just doing some testing here, so you can relax." I take a few shots, review them on the LCD, make a few adjustments, and then shoot some more. I keep the conversation going while doing this. When I capture a shot that I think is flattering, I show it to the model right away. Seeing the image on the LCD gives the model confidence and helps the shooting session go much more smoothly.

> **Keep Shooting** If you're not relying on your flash for lighting, try setting your camera in a continuous-shooting mode. A burst of five or six frames may help you capture that quintessential expression you wouldn't otherwise get. It's also great for kids and other fidgety models. However, this technique doesn't work so well for flash photography because the flash can't fire often enough to keep up with the shutter.

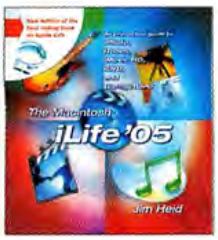
Lighten Up Lighting that is too even can sometimes make a face appear too broad. By producing graduated tones and adjusting the model's position, you can slim your subject's face.

Reflections

Don't have a photography assistant to hold your reflector? You can create your own setup with an old light stand and a few clamps (for complete instructions, go to macworld.com/0546).

Prevent DVD Disasters

For many iDVD projects, one click of the Burn button is all it takes to commit your work to plastic. But if you have a slow computer or a complex project, or just seem to have trouble burning reliably, you may be better off taking a more circuitous route. In iDVD 5, part of Apple's $79 iLife '05, you can create a *disc image* of your DVD project—which you can then use to test for errors or to access advanced burning options.



By the Book This article is an excerpt from *The Macintosh iLife '05*, by Jim Heid (2005; reprinted by permission of Peachpit Press/Avondale Media).

If you've downloaded software from the Internet, you're probably already familiar with the concept of disc images. A disc image isn't a disc or an image. It's a file on your hard drive. The bits and bytes in this file are organized in the same way that they would be on a disc. If you double-click on a disc-image file, the Mac's Finder reads the disc image and creates an icon on your desktop, as if you'd inserted a disc.

When you create a disc image in iDVD 5, the program performs the same steps as when you click on the Burn button, with one exception: after iDVD finishes preparing your DVD's assets, it doesn't fire up your DVD burner. Instead, it simply saves the data in a file on your hard drive—as a disc image.

Creating a disc image can be a great way to increase your success rate when burning DVD projects. Separating the encoding and burning processes into separate phases gives you more flexibility—and, often, more reliability.

Creating a Disc Image

To turn your project into a disc image, choose Save As Disc Image from the File menu (⌘-shift-R). Give your disc image a name and click on Save. iDVD compresses your video, encodes your menus, and then saves the resulting data in the disc-image file. The file's name ends in *.img*.

Testing a Disc Image

If your DVD has a lot of menus, transitions, and content, you should take it for a test-drive before you burn it to disc. To test your DVD, use OS X's DVD Player program.

Double-click on the disc image file to create an icon on your desktop. If you double-click on this icon to examine its contents, you'll see two folders: AUDIO_TS and VIDEO_TS. (If you added DVD-ROM content to the DVD, you'll see a third folder, too.) Those awkward names are required by the DVD standard, as are the even more awkward names of the files inside the VIDEO_TS folder. (The AUDIO_TS folder will always be empty, but don't try to create a DVD that lacks one; the DVD may not play in some players. And in case this ever comes up in a trivia contest, *TS* stands for *transport stream*.)

Start DVD Player and choose Open VIDEO_TS Folder from the File menu. Navigate to your disc image, select its VIDEO_TS folder, and click on Choose. Now press the spacebar, and your faux DVD will begin playing back.

Burning a Disc Image

If you found a problem when testing your disc image—a typo, for example, or a missing piece of content—you haven't wasted a blank DVD. Simply trash the disc image, make your revisions in iDVD, and then create and test another disc image.

And if your disc image tested perfectly and you're ready to burn? Don't bother with iDVD's Burn

Choosing the Right Media

There are several types of writable DVD media: DVD-R, DVD-RW, DVD+R, and DVD+RW. Previous versions of iDVD could handle only the DVD-R format, but iDVD 5 is much more versatile. It can burn any of the aforementioned formats, assuming your DVD burner supports them. Most of the SuperDrives in today's Macs can; older SuperDrives support only the DVD-R and DVD-RW formats.

There is an important difference between R and RW discs: an R disc (-R or +R) can record data only once; an RW disc (-RW or +RW) can be erased and reused roughly 1,000 times. If you insert an RW disc that already contains data, iDVD even offers to erase it for you.

RW discs are great for testing, although you're more likely to encounter playback problems with them on some DVD players. Also, RW discs are more sensitive to damage and aging than write-once discs.

If you're interested in the technical details of these formats, read Jim Taylor's superb DVD FAQ at www.dvddemystified.com.

Tip When you're burning a DVD, avoid running complex programs that put a lot of demands on your system. For example, recording a track in GarageBand while burning a DVD isn't a good idea. Also consider turning off file sharing and quitting any disk-intensive programs.

button—use the disc image instead.

Using Disk Utility First, start up OS X's Disk Utility program. (It's located in the Utilities folder within your Applications folder.) Next, click on the Burn button in the upper left corner of Disk Utility's window. In the resulting dialog box, locate and double-click on the disc-image file. Disk Utility then displays another dialog box. Before you click on its Burn button, select the little down-pointing arrow to expand the dialog box and see additional burn options.

You can get more-reliable burns—and increase the chances that your DVD will play in other players—by setting the Speed option to your drive's slowest speed (see "What's the Hurry?").

Need it quick? If you deselect Verify Burn, your disc will be ready sooner. On the downside, you won't know if data was written inaccurately until you try to play the disc.

Other Ways to Burn If you have Roxio's Toast 6 Titanium ($100; www.roxio.com), you can drag your disc image's AUDIO_TS and VIDEO_TS folders into Toast and burn the disc there. If you've installed Toast's Toast It shortcut menu, the job is even easier: control-click on your disc-image icon and choose Toast It from the shortcut menu. (Use Toast's Preferences command to install the Toast It shortcut-menu plug-in.)

You can also use Toast to fine-tune any DVD-ROM content you've added—for example, removing the raw versions of the photos you've included in a slide show.

Toast also gives you a choice of burning speed. For critical projects where you need the broadest compatibility, burn at 1× speed. □

What's the Hurry? To give your DVDs the widest compatibility and to get more-reliable burns, burn discs at your drive's lowest speed.

ICON BY PAUL HOWALT; PHOTOGRAPH BY PETER BELANGER

TRY THIS

Wow Your Friends: 3 iDVD Tricks

> Add an iPhoto Book to Your Slide Show

Rather than just showing off your pictures one at a time in an iDVD slide show, why not lay them out in a book and display them as pages in iDVD? In iPhoto 5, you can save a photo book as a PDF. Click on the book and press ⌘-P.

Choose Save As PDF from the PDF menu, and then open the PDF in OS X's Preview program. In the drawer (View: Drawer), select the page that you want to turn into a slide, and choose Edit: Copy. Go to the File menu and choose New From Clipboard—the Preview program will create a new document and paste the page you copied into it.

To add that page to your slide show, position the iDVD and Preview windows so you can see them both. Then drag the thumbnail from the new Preview document you created into the iDVD window. You don't have to save the Preview documents—you're simply using Preview as a tool for extracting individual pages from your book's PDF.

> Hack iDVD

The iDVD application is a *package*, a kind of sophisticated folder that stores iDVD's program code and other resources. By exploring the contents of the iDVD package, you can take an inside look at iDVD's themes and even extract video and audio from them.

Control-click on the iDVD icon and choose Show Package Contents from the pop-up shortcut menu. The Finder will display a directory window showing the contents of the iDVD package. Open the Contents folder and then the Resources folder.

X-Ray Vision Want to tinker with the song or design from one of iDVD's themes? Go to its package contents.

In the Resources folder are iDVD's themes (each ends with *.theme*). Each theme is also a package; to explore it, control-click on its icon and choose Show Package Contents from the shortcut menu. Open the Contents folder and then the Resources folder, and you'll find background movies and audio loops. To extract an item—for example, to grab the background audio from the Drive In One theme—press the option key while dragging the item's icon to the desktop. This makes a copy of the item but doesn't change the original. (Don't throw away or alter any resources whose purpose you don't understand, or you may have to reinstall iDVD.)

> Archive Projects to Burn Elsewhere

If your PowerBook lacks a SuperDrive but your desktop Mac has one, you can still work on a DVD on a cross-country flight. iDVD 5 has an archiving feature that saves a project and all of its assets in one self-contained file that you can move to any Mac with iDVD 5.

Choose Archive Project from the File menu. If you created customized themes for the DVD—or if you want to be certain that your themes will be available in a future version of iDVD—select the Include Themes option. If iDVD has already encoded the DVD's content, you can include those encoded files in the archive by selecting Include Encoded Files (but this will make your archive file quite a bit larger). Click on Save, and iDVD copies everything in your project into a file. You can transfer this file to another Mac, using a FireWire hard drive, a fast network, or the FireWire disk mode that laptop Macs provide.

Contributing Editor JIM HEID publishes more iLife tips at www.macilife.com.

Fix AirPort Printing Problems

Sharing a printer among multiple computers over an AirPort network—by connecting the printer to the USB port on an AirPort Extreme or Express base station—usually just works. But according to online reports and reader mail, it doesn't work all the time. Here are five basic troubleshooting steps to take if your shared printer stops printing.

Step 1: Get the Correct Driver

First, download and install the latest drivers for your printer from the manufacturer's Web site. Even when AirPort is set up correctly and your printer is compatible with it, you still might have problems: the print queue in Printer Setup Utility stops processing jobs, or a print job vanishes or doesn't complete. These problems—particularly when they happen on long, complex print jobs—may indicate a driver problem. A new driver could be all you need to fix it.

If the manufacturer's driver doesn't work, try the Gimp-Print drivers (macworld.com/0501), which work with OS X's Unix underpinnings. Another option is the Hewlett-Packard Inkjet Driver Project (HPIJS) driver package for Mac OS X (macworld.com/0502). HPIJS originally supported only HP ink-jet printers, but it has grown to include drivers for printers from manufacturers such as Brother, Canon, Epson, and Samsung.

To use one of these alternative drivers, select your printer in Printer Setup Utility and click on Show Info in the toolbar. Choose Printer Model in the upper pop-up menu, and then select the printer's manufacturer in the lower pop-up menu. A list of printer drivers appears below the lower pop-up; the list is formatted with the name of the printer followed by the source of the printer driver. For example, if your printer is an HP Deskjet 990Cxi, you should see HP Deskjet 900 Series, CUPS+Gimp-Print v4.2.5 as an option (see "Switching Drivers").

Switching Drivers Having trouble printing to your printer via AirPort? Your printer driver could be to blame. You can download third-party drivers—such as the Gimp-Print drivers, which work directly with OS X's CUPS printing subsystem.

Step 2: Check AirPort Compatibility

Apple's Remote I/O USB Printer protocol allows a USB printer driver to work across a TCP network connection—in other words, to do something it wasn't designed to do, so problems sometimes crop up.

Apple used to provide a list of AirPort-compatible printers, but now only a list of OS X–compatible printers is available (macworld.com/0566). Hewlett-Packard (macworld.com/0498) and Lexmark (macworld.com/0499) publish compatibility lists on their Web sites, but neither list is comprehensive.

To fill that void, James Clay—known as "iFelix" on Apple's discussion forums—maintains an unofficial printer-compatibility list on his Web site (macworld.com/0500). He started with Apple's original list and bases updates on his own testing and other users'

AirPort Does Windows

AirPort printer sharing isn't restricted to Macs: Windows PCs can also use an AirPort print server. To set this up, you'll need the AirPort's IP number. (By default, it's at 10.0.1.1.) With the PC attached to the AirPort wireless network, open the Add Printer wizard in Printers and Faxes. Following the steps in the wizard, create a local printer, deselecting the Automatically Configure option. Next, click to create a new Standard TCP/IP Port, and enter your AirPort's IP number in the IP number field. If the IP number is 10.0.1.1, the queue name should automatically fill in as IP_10.0.1.1. In the next screen, select Standard as the device type, and then specify Hewlett Packard Jet Direct. Finally, click on Finish, and then select your printer make and model from the list of available drivers.

If you're using Windows XP, 2000, or 2003, there's a simpler solution: Apple's Bonjour for Windows (macworld.com/0505). Once installed, the included Printer Wizard displays a list of available printers on your subnet; just select your AirPort-shared printer, click on OK, and select the printer make and model from the list.

reports. When shopping for a printer, check these compatibility lists; if a printer isn't listed, a bit more detective work is in order.

Another way to tell whether your printer should work with AirPort is to look at its marketing materials. Do they say the printer can be networked? If so, it will probably work with AirPort. If the manufacturer specifically says it can be used with a print server, the odds are even better. If the manufacturer sells a print server for the printer, it's almost a sure bet. If networking or print servers aren't mentioned, the printer could well be a host-based model and therefore less likely to work with AirPort (see "Printer + Print Server = Network Printer").

Also, remember that AirPort supports only printing. If you have a multifunction device, you won't be able to use its additional features (scanner, fax, and so on) over the network. Some manufacturers sell print servers that support those extras.

Step 3: Make Sure AirPort Is Set Up Correctly

Unplug the printer from your base station; then download and install the latest AirPort Admin Utility from Apple's support Web site (www.apple.com/support/airport). In addition to the utility itself, the download should include the latest firmware released for your particular base station.

After the base station restarts, establish connectivity between the outside world and all your computers. Once your wireless network works, plug your printer back into the base station. On your Mac, open Printer Setup Utility, click on the Add button, and select Rendezvous (or Bonjour, if you've upgraded to Tiger) from the Printer Type drop-down menu. You should see your printer listed (see "Are You There?"). Add the printer and run a test print job. If your job prints, you're done; if some jobs print but others don't, there may be a driver problem (see the first step).

Step 4: Test the Printer

Plug the printer directly into your Mac's USB port. Open Printer Setup Utility, select USB from the top drop-down menu, pick your printer from the resulting list, and click on Add. Run another test print job. If it doesn't work, try reinstalling the driver that came with your printer, and test again. If that doesn't help, there may be a problem with your printer—contact the manufacturer or consult its Web site for support.

Step 5: Sweating the Small Stuff

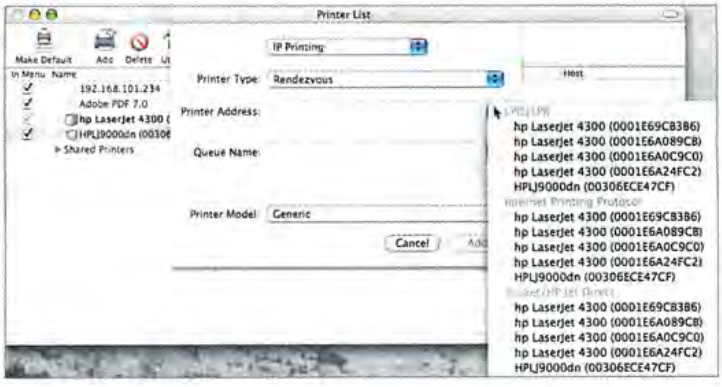
If you're still having difficulties, remember to check the basics: Is everything plugged in and turned on? If you use a laptop with multiple network locations, have you selected the correct location? If the problem seems to be triggered by a particular print job, try another print driver. If you can resolve a problem by reseating the USB cable, try another cable. If the Mac has trouble sending the print job to the printer, find out whether someone on the network is chewing up the wireless bandwidth.

Apple's discussion boards for AirPort-connected printers (macworld.com/0503) have a lot of helpful information. In addition to keeping his compatibility list, James "iFelix" Clay is a regular figure there and a respected authority within the user community.

Ready, Aim, Troubleshoot

Although AirPort does make sharing a USB printer easier—most of the time—networking is never simple, even when Apple does it. But when you run into a glitch with AirPort printer sharing, you don't need a computer-science degree to fix the problem. Systematic troubleshooting should, in almost all cases, do the trick. □

ANDREW T. LAURENCE is a network administrator and a modmini.com editor.



Are You There? An important step when you're troubleshooting AirPort printing problems is to unplug the printer and make sure AirPort is running with the latest firmware. Then plug the printer in and see if you can find it.

Printer + Print Server = Network Printer

Some printers are meant to be shared; some aren't. Network-ready printers can process print jobs on their own. Such printers also typically hold plenty of paper, ink, and toner. Models that aren't meant to be shared are called host-based printers, meaning that they rely on the attached computer to figure out where to put the ink on the paper.

Host-based printers are also not designed to work with print servers—devices that attach to a printer's USB or parallel port and make the printer available on a network. The AirPort base station is a very capable print server, too, although it can't queue jobs internally. (Networking aficionados will be pleased to note that AirPort uses the familiar AppSocket [or JetDirect] protocol on TCP port 9100.)

AirPort is unique among print servers in that it doesn't care whether the attached printer is host-based or network-ready. Apple's Remote I/O USB Printing protocol simply extends the USB data stream over the network. But network traffic tends to flow in bursts, not the steady and predictable stream of a USB connection. Therefore, if the printer's hardware isn't capable of queuing and buffering incoming data, it may be unreliable when used in a network setting.

Note that when you use a print server, you lose access to whatever utilities your printer has for monitoring its ink supply, paper jams, and the like. These utilities require a direct USB connection and don't work over network connections. Such limitations are part and parcel of network printing, and are true of any print server.

The Linux iPod

Imagine using your iPod and a regular old microphone to record studio-quality audio. Or sitting on a commuter train and playing Othello, Pong, Tetris, or Asteroids. All this and more is possible when you install Linux on your third-generation or earlier iPod. Best of all, one soft reset, and you're back in Apple's iPod operating system, listening to your tunes.

Do the Deed

To get started, you need your iPod, the FireWire cable you use to attach your iPod to your Mac, and free software from the open-source iPod Linux Project. Currently, the software supports all third-generation and earlier iPods. Work is under way on adding the fourth-generation iPod, the iPod photo, and the iPod mini to that list. (To make sure your iPod is supported, go to macworld.com/0372.) Download the iPod-Linux Installer from macworld.com/0373. It will take up about 5MB of your iPod's hard-disk space.

It's unlikely that anything bad will happen while you're installing Linux, but it would behoove you to back up your music to your Mac first (if you don't already keep your master files there). That way, if some unforeseen software glitch happens, you won't lose your entire collection.

The installation process is very straightforward. Plug your iPod in and make sure that it's mounted on your desktop. If you can't see it, open iTunes and select iTunes: Preferences: iPod. Select the Enable Disk Use option and click on OK. Now you can run the installer. Once it's completed, eject your iPod through iTunes or by dragging its icon to the Trash.

Disconnect it and then reboot it by holding down the menu and play/pause buttons simultaneously. When you see the Apple logo, press and hold the back button. The smiling face of Tux (the emblematic penguin that is Linux's mascot) should greet you, and then you'll see a rapid series of scrolling text messages (see "Hello, Tux!"). In a few seconds, the new interface should appear. Known as *podzilla*, it looks very much like the iPod's familiar facade but includes many new options.

Enjoy the Linux Goodies

Of course, there is a simple pleasure in having Tux's mug grace your iPod when you turn it on. But that's just the beginning of the fun.

Record Audio Probably the coolest thing you can do after you install Linux on your iPod is record high-quality audio. Using Apple's software, you can create recordings only at up to 8kHz with your iPod, and to do so you must purchase and use an add-on device, such as the Griffin iTalk voice recorder ($40; www.griffintechnology.com).

A Linux-enabled third-generation iPod circumvents this restriction. You can record mono audio at up to 96kHz. (If you're feeling *really* geeky, try recording in stereo by using the line-in pins on a modified dock connector. To identify the pins you'll wire the mike to, see macworld.com/0390.)

Powered by Linux With Linux on your third-generation iPod, you'll be able to view very simple images (left) and play many games, such as the ever mesmerizing Tetris (right).

To put those numbers into context, CDs are 44.1kHz, and Digital Audio Tape (DAT) is 48kHz. Most pro studio recording is done at 24 bits and 96kHz. Newer DVD-Audio discs also go up to 96kHz. The higher the quality you have up front, the better your recording will sound in the end.

Any simple computer microphone should work as a recording device. In fact, you can even use your left *earbud*. Mind you, the recording quality is not perfect, but it's surprisingly good. Listen to a sample at macworld.com/0374. If you're a musician, this could be a highly portable way to record your live shows.

To try this out, boot your iPod into Linux and plug in a microphone. Scroll down to the Extras directory and click on Recordings. Scroll down to Sample Rate and adjust it as you see fit. Then scroll back up to Mic Record and press the iPod's center button to begin recording. Press the play/pause button to stop or restart recording. Voilà—you'll find your recording stored as a 16-bit sample under Voice Recordings. When you connect your iPod to your Mac and soft-reset back into the iPod OS, iTunes will pick up this recording and create a playlist for it.

View Images What else can your iPod do? How about acting as a very crude photo viewer? OK, it won't turn your third-generation iPod into an iPod photo, but the supported iPods can display images (including JPEG, GIF, and BMP files) in black and white. That's good enough to sneak a quick peek at a scan of your child's latest drawing (see "Powered by Linux").

To access this feature, hook up your iPod to your Mac, and then create a new folder at the iPod's root level. Call it something like *img*. Put a small photo—say, less than 100K—in the folder. Now disconnect your iPod and boot into Linux. Using the scroll wheel, select File Browser and then the img folder. Press the iPod's center button to open the folder. Select the file name and wait a moment. The image will open in 2-bit gray scale. Simple photos with lots of contrast will come out better; those with subtle color distinctions will look like mud.

Play More Games This slimmed-down version of Linux, called uClinux, comes with a number of games, including Othello, Pong, Tetris (known as BlueCube), Asteroids (Steroids), and Minesweeper (Nimesweeper)—it even offers a version of Etch A Sketch called PodDraw. To play a game, use the scroll wheel to open the Extras menu. Scroll down to Games, and then select a game. Press the menu button to exit. Now when you get tired of music while traveling on a plane, train, or bus, you've got other options.

Access Other Goodies Under the Extras menu, you'll find a calculator application, perfect for doing simple math at the grocery store. There's also a Calendar application, but unlike Apple's version, it can't sync with iCal, nor does it display entries for each day. It'll do for finding out what day of the week the 15th falls on next month. But for any serious personal-appointment making, you'll want to switch to the calendar that's available through the regular iPod OS.

What's Cooking

The busy programmers at the iPod Linux Project have more cool things planned. Check the status of upcoming projects at macworld.com/0375. Here's a sampling:

> **iPod to iPod Connection**

Status: beta

This program will enable direct transfer of files between two iPods when they're connected to each other, something that's currently impossible.

> **Game Boy Emulator**

Status: in progress

Play Super Mario Land on your iPod.

> **Doom**

Status: in progress

Doom, the classic first-person shooter, has been ported to graphing calculators, so why not to the iPod?

Hello, Tux! When the Linux penguin greets you, you'll know you're not in an Apple OS anymore.

One iPod, Two OSes

If you try to play music with your Linux Pod, you'll quickly notice that your songs don't sound very good. In fact, they probably skip. If you try to play a song and then play Tetris while listening to it, the song stops.

In short, don't bother. A simple soft reset (press the menu button and the play/pause button) is all it takes to switch back to your regular iPod OS. Want to go back to Linux? Press those buttons again; when you see the Apple logo, press the back button, and Linux takes over.

The iPod Linux Project is open source, which means new features are always in the pipeline (see "What's Cooking"), and anyone with sufficient programming background can help. For details, go to www.ipodlinux.org. The developers also maintain a blog (www.ipodlinux.org/blog) that provides news and updates. □

CYRUS FARIVAR is a freelance technology journalist living in the San Francisco Bay Area. He was an editorial intern at *Macworld* magazine in 2004. See his blog at cfarivar.org.

Now Hear This! Are you itching to know more about Bluetooth, or to see some of the crazy ways people are *still* using the Newton? Then go to macworld.com/0573 to hear the new Geek Factor Podcast.

Mac OS X Hints

The Insiders' Tips You Won't Get from Apple

Quickly Add Titles to iPhoto Images

When you're working with Apple's iPhoto 5 ($79 as part of iLife; www.apple.com), the left- and right-arrow keys are useful keyboard shortcuts for moving from one photo to the next. But if you're working in the Information panel (click on the small *i* in the lower left corner) to set titles, dates, times, comments, and so on, you'll find that the arrow keys no longer switch photos. Instead, they allow you to move within the text you're modifying. This makes changing information for multiple photos difficult, since you're forced to use the mouse to move between them.

There are, however, two not-so-obvious shortcuts that can save you some mousing time. After you've clicked on one of the Information panel's text fields, just use ⌘-[(left square bracket) and ⌘-] (right square bracket) to move to the previous and next images, respectively. Your cursor stays in the text field you were working in, so it's easy to quickly update information for a large number of photos (see "Quick Pics Info"). Note that if you're setting the field to exactly the same value for every photo in your selection, it's faster to select Photos: Batch Change.

Add Photos to iPhoto 5 via the Dock

In earlier versions of iPhoto, you could add images to the library in only two ways: by using the Import feature, or by dragging and dropping images directly into the iPhoto library. Both of these techniques required that iPhoto be running. In iPhoto 5, there's another option: drag and drop an image, or a group of images, onto the program's Dock icon. You can do this even if iPhoto isn't running, and it works from most applications—drag an image out of Microsoft Word, say, and onto iPhoto 5's Dock icon, and the image joins the library.

Unfortunately, this trick won't work with Apple's Safari or Mozilla's Firefox; if you want to put Web images in your iPhoto library from one of these browsers, you'll have to save the images to your disk from the browser and then import them into iPhoto.

Fine-tune Fonts in iPhoto 5 Books

The Settings button in iPhoto 5's Book toolbar lets you control a photo book's font particulars—you can set the font size and type for the cover title and subtitle, headings, and more. But you're not limited to just this kind of global control.

Once you've created your book, you can modify *any* text as you see fit—just press ⌘-T to bring up the Font panel, select some text, and change the size, color, shadow, and so on. Since iPhoto sends a book as a series of images, not text, to the print house, what you see on screen will be what you get back from the printer.

Alert Others to iCal Events

If you're an iCal user, you're probably familiar with the alarm function—you can set up alarms that alert you to upcoming events via a pop-up message or via an e-mail message sent to the address stored in your own Address Book entry. Therein lies the rub—for whatever reason, iCal will not let you send alarms to e-mail addresses other than yours. This might make sense for personal events, but if you use iCal to track your whole family's

UNIX TIP OF THE MONTH

Examine Your Battery's Lifeline

Ever wish you could get more information about the state of your laptop's battery? The Unix command `ioreg` displays the contents of the I/O Kit registry, which contains a ton of information about your machine. Open Terminal (/Applications/Utilities) and type `ioreg -l | more`. You'll see data on everything from CPUs to peripherals.

Buried deep in the output is information about your battery's overall health and current charge, but it's not easy to find on your own. Instead, let the Unix search tool `grep` do all the hard work for you. Just use this command:

```
ioreg -w0 -l | grep Capacity
```

The `-w0` flag tells `ioreg` not to truncate the output lines, and the `-l` flag is the `list` command, which is what actually generates the output. The pipe symbol (`|`) then sends the output to `grep`, which searches for any line containing the word `Capacity`. The output will look something like this:

```
    | | |   "IOBatteryInfo" = ({"Capacity"=3971,"Amperage"
=18446744073709550895,"Cycle Count"=61,"Current"=2160,
"Voltage"=11370,"Flags"=4,"AbsoluteMaxCapacity"=4200})
```

What does it all mean? The values you care about are `Cycle Count` (the number of times the battery has gone through a discharge-charge cycle), `Current` (the current charge in the battery), `Capacity` (the highest charge the battery can hold), and `AbsoluteMaxCapacity` (the battery's original highest-charge value).

As your battery ages, the `Capacity` value will slowly decline in relation to `AbsoluteMaxCapacity`—the battery is losing its ability to take a full charge. If a battery is giving you very short usage cycles, you may need to replace it. You can find out by checking the `Capacity` value. The `Cycle Count` value shows what remains of your battery's useful life. Studies indicate that PowerBook-style batteries have a useful life of between 300 and 500 cycles.

CHECK IT OUT

Don't Settle for Standard Finder Font Sizes

When you view a folder's contents in the Finder, you can customize the font size by choosing View: Show View Options (⌘-J). However, you're limited to text between 10 and 16 points in size. What if you'd like a smaller or larger size? For instance, a smaller font will show many more entries when you're in Column view (see "20/20 Vision Required"). A larger font might be useful if you use Icon view or have a limited number of items on your desktop. If you edit the Finder's preferences, you can choose font sizes outside of Apple's predefined range.

To start, navigate to */your user folder*/Library/Preferences, find com.apple.finder.plist in the long list of files, and drag and drop it onto TextEdit. Make a duplicate of this file before you start, in case you make a mistake.

The preferences file is quite large, but you're looking for four particular things. The first thing to look for is the settings that control the desktop. Press ⌘-F to bring up the Find dialog box, type `DesktopViewOptions` in the search box, and click on Next.

If you don't find any matches, close the file, click on your desktop, and then select View: Show View Options. Toggle one of the options twice and then close the window—this will write a DesktopViewOptions entry to your Finder's preferences. Now reopen the file in TextEdit, search again, and look for this section:

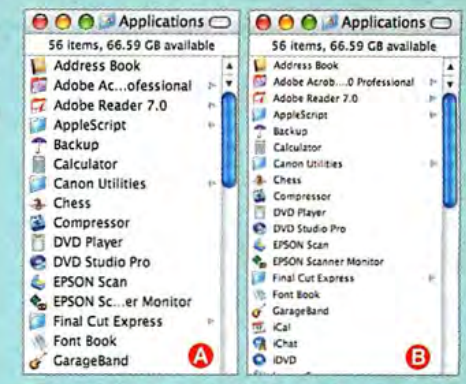
```
<key>DesktopViewOptions</key>
    <dict>
        <key>ArrangeBy</key>
        <string>%00%00%04%01
</string>
        ... ...
        <key>FontSize</key>
        <integer>12</integer>
        ... ...
```

Once you find these lines, you adjust the desktop's font size by changing `12` to a larger or smaller number.

The next three options (called *keys*) are all in one section of the file, so switch back to TextEdit's Find window, type `StandardViewOptions` in the Find field, and click on Next. The three keys you're looking for are `Nlsv` (List view), `clmv` (Column view), and `icnv` (Icon view). You'll have to scroll to reach each one.

Within each area, you want to find and modify the `FontSize` key, changing the values to the size you prefer. If you don't see this key in a particular section, that means the Finder's defaults haven't been changed. The safest way to fix this is to close the preferences file, use the Finder's View options to set a font size for the missing entry, and then reopen the preferences file.

When you're done, use File: Save to save the modified file, and then quit TextEdit. To see your changes, you need to restart the Finder. The easiest way to do this is to hold down the option key and then click and hold on the Finder's Dock icon until a contextual menu appears. Choose Relaunch to restart the Finder.



20/20 Vision Required Ever wish you could cram more text into your Finder windows? You can if you edit the Finder's preferences file. Here you see the Finder with the standard 12-point font A and the same window using a 9-point font B.

commitments, it might be nice to use iCal's alarm function to remind *everyone*. With a bit of trickery, you can.

This tip takes advantage of the fact that Address Book will let you associate more than one e-mail address with any one person. Open Address Book, select your own card, and click on the green plus sign (+) next to your e-mail address. Address Book will create a new e-mail entry for you. Type in the address of the person to whom you'd like to send a message from iCal, and then click on the label to the left of that e-mail address. Select Custom from the pop-up menu, and type the person's name for easy identification. Repeat this process for each person you want to be able to include. When you're done, click on the Edit button to return to normal browsing mode.

Launch iCal (or quit and relaunch it if you already had it running), and select or create an event. Click on the Alarm field, set the alarm type to E-mail, and then click on your e-mail address. In the pop-up menu, you'll see all the new e-mail addresses. Select the one you'd like to use, and you're done.

But what if you want to send a message to more than one person? When you add a new e-mail address to your Address Book card, don't type an individual's e-mail address; instead, type the name of any already existing Address Book group. For instance, if you've set up a group named My Family, just type that name, complete with the space, in the e-mail address field. Then click on the pop-up menu to the left of the e-mail address, select Custom, and type a descriptive name for the group. When you next launch iCal and set an e-mail alert, you'll see your newly added group in the list of addresses. Select it, and everyone in the group will receive the alert when the time comes.

continues

Quick Pics Info When editing text fields in iPhoto 5's Information panel, you can use a keyboard shortcut to navigate between photos—no need to reach for the mouse.

ICONS BY PAUL HOWALT

OS X 101

Secrets of the Application Switcher

Productivity mavens probably already know that you can press ⌘-tab to switch programs quickly in OS X 10.3 and later. But there's a lot more to the Application Switcher.

When you press ⌘-tab, the icons for active programs appear at the center of your screen, in order of use from left to right. The program you're currently using is in the leftmost position, the one you used before that appears to the right, and so on. This makes it very easy to toggle between two programs—for example, if you're copying and pasting multiple items from Microsoft Excel to Word. Just press and *release* ⌘-tab. You don't even need to wait for the window to appear; as soon as you release tab, you'll switch to the prior program.

The standard method of moving between programs in the Application Switcher is to hold ⌘ and just keep pressing the tab key. As you do, the selection moves left to right across the Switcher. What if you want to move right to left? The hard way is to hold down ⌘-shift-tab. An easier method is to press ⌘-tab once and then press the backtick key (`) while continuing to hold ⌘. That's one less key to press, and it's much easier on the fingers.

Depending on your predilection, you can try other means of navigating the panel. If you have a scroll wheel, activate the Application Switcher by pressing ⌘-tab, and then spin the wheel while holding down ⌘. Or just move the mouse itself, and the cursor will highlight each application icon it touches. You can also use the left- and right-arrow keys to navigate across the Switcher. The home and end keys will jump to the left and right ends of the Switcher, and you can activate a selected application by either releasing ⌘ or pressing enter.

Finally, here are two keyboard shortcuts you can use with the Switcher. After you press ⌘-tab, hold down ⌘ and press H to hide the highlighted application. Press Q, and the program will quit instead. This is a great way to quit all your apps at the end of the day—just press ⌘-tab once to bring up the Switcher, then keep pressing Q (no need to press tab again, as the Switcher will move through the list as each program quits).

This isn't an ideal solution, of course—if you sync Address Book with your phone or PDA, you'll find your data record clogged with multiple e-mail addresses. A more elegant workaround is to create an AppleScript that sends an e-mail message to a bunch of users simultaneously, and then have the iCal alarm trigger that AppleScript. However, that method is much more complex. The one I've described will work just fine for most people.

Avoid Chart Snafus with Excel and iWork

Using Apple's new $79 iWork productivity suite—the Pages word processor and Keynote presentation

continues

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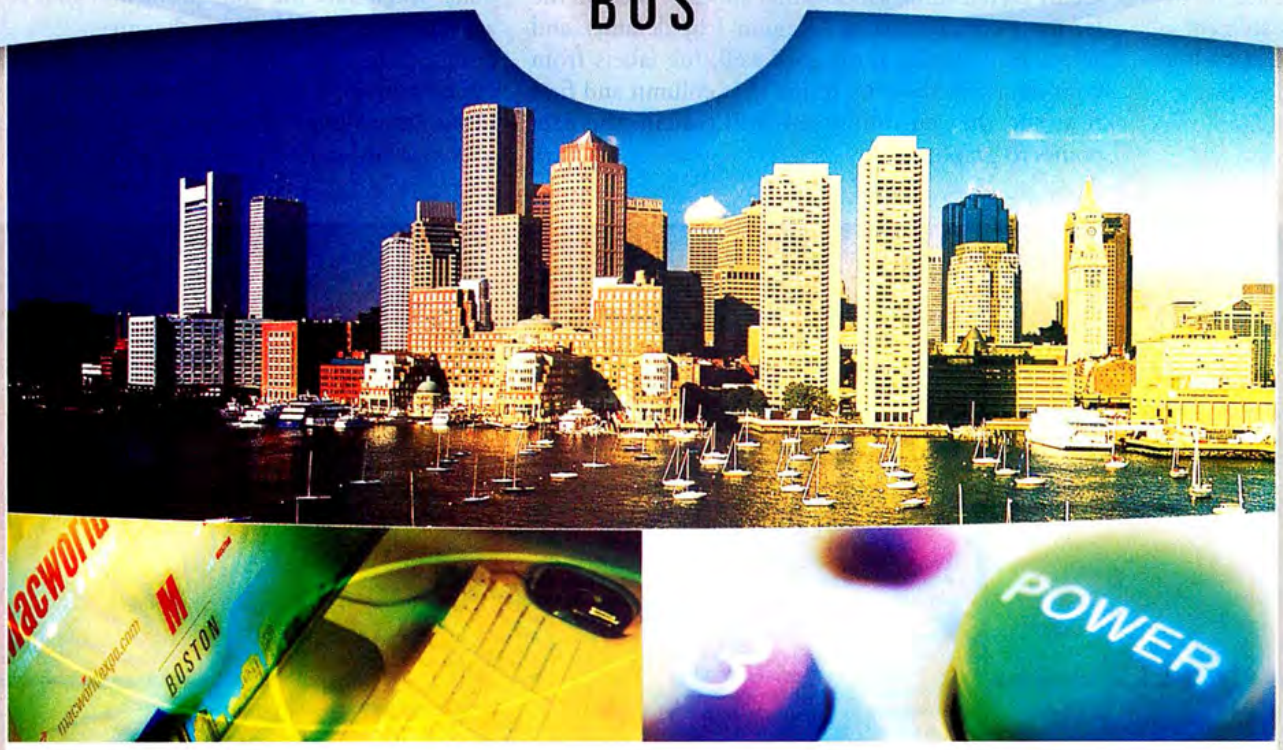

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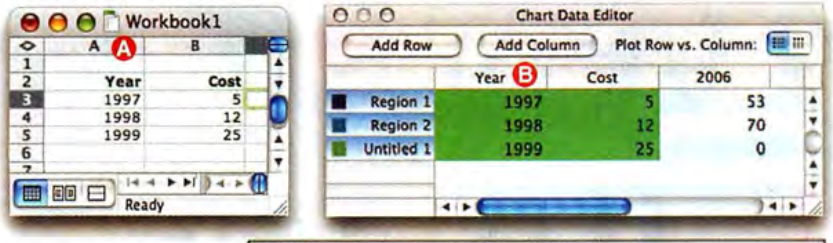
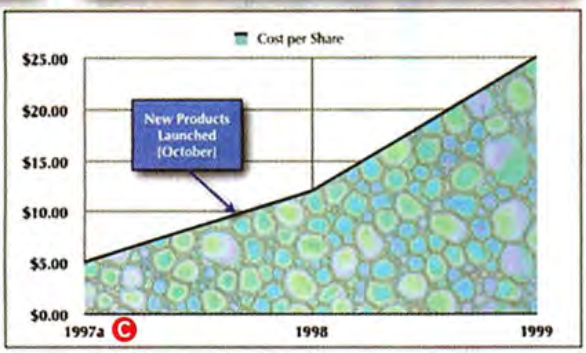


A Waste of a Paste

If your chart data in Excel has a numeric first column, such as Year A, you'll have trouble pasting that column into Apple's Pages or Keynote. The Year column will become the first data column, which is not what you want B. You can get around this by adding a character to the first year C so that Pages and Keynote treat the column as labels, not data. Delete the letter, and you're done.



program—you can create gorgeous charts with data you've copied from Excel workbooks. Most of the time, this works just fine. Copy the data range in Excel, and then insert a new chart in Pages or Keynote using the Objects toolbar button. In the Chart Data Editor window that appears, click on the leftmost column (named Region 1 by default), and select Edit: Paste. If all goes well, the labels from your data will show up in the first column and first row, and the remaining cells will contain the data points to graph.

But what if things *don't* go well? For instance, you'll run into problems if you're trying to create a chart that has an axis labeled with numbers. Say you're charting something across multiple years (1997, 1998, and so on). In that case, the paste will fail—the iWork applications will interpret the numbers as values that appear on the graph, instead of treating them as labels. A simple example demonstrates both the problem and the solution.

Consider the Excel spreadsheet in "A Waste of a Paste." If you were to copy all of the spreadsheet's data and paste it into the Chart Data Editor in Pages or Keynote, you'd find that the Year column would become the first column of data on your chart, and the Cost column would become the second column of data.

To prevent this, you need to fool Pages and Keynote into thinking that the entries for the *x*-axis are real text, not numbers. The easiest way to do this is to just add a letter to the first label—change *1997* to *1997a*, for instance. Then when you copy and paste, Pages or Keynote will properly place the labels in the label portion of the Chart Data Editor, as seen in the bottom half of "A Waste of a Paste." Remove the *a*, and you're done. You'll have the same problem if your row labels are numerals; the solution is the same. □

Contributing Editor ROB GRIFFITHS is the author of *Mac OS X Power Hound, Panther Edition* (O'Reilly, 2004), and runs the Mac OS X Hints Web site (www.macosxhints.com).

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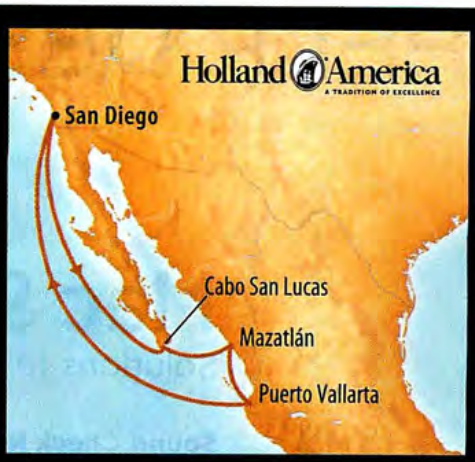

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THE EVOLUTION OF DIGITAL ART
BERT MONROY

Bert Monroy embraced the Mac as an artistic medium with the introduction of the Mac 128 in 1984. In this evening talk, open to all, Bert will take you on a journey through the evolutionary transformation of the Mac from its beginnings with MacPaint to its current status as the preferred tool of graphic artist throughout the world.

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Sound Check Redux

I'd like to apply the Sound Check process to my iTunes library again. Is there a way to do it without removing and re-adding all my songs?

Tom Starling

There is. But it's not quite as easy as visiting iTunes' Audio preference pane and toggling the Sound Check option (which adjusts each song's volume level to be nearly the same) on and off. The trick is to rebuild the iTunes library.

To do so, quit iTunes and navigate to the iTunes music folder (*/your user folder/*Music/iTunes). Move the iTunes Music Library.xml file to the desktop—you'll need it later. Then move the iTunes 4 Music Library file to the desktop. For the moment, hang on to it in case things go awry. When you launch iTunes, you'll see that there isn't a single song listed in its library. iTunes simply doesn't know where they are.

Select File: Import and, in the resulting Import window, find the iTunes Music Library.xml file you moved to the desktop. Click on Choose. iTunes will populate its library listing with your track titles and restore your playlists. If the Sound Check option is selected, iTunes will once again apply the Sound Check adjustment to your library. If it's not selected, then enable the Sound Check option to apply the effect.

Once you're sure your songs are safely listed, trash the iTunes 4 Music Library file that's on your desktop. If something did go wrong, replace the new iTunes 4 Music Library file with the original one.

Setting the Table
Getting a table out of PDF and into Excel is no easy task. But after you do, specifying a space delimiter may help separate conjoined cells.

Spreadsheet Acrobatics

I have a number of spreadsheets in PDF that I want to work with in Excel. Is there any practical way to do this?

Richard Troxel

It depends on your definition of *practical.* I can suggest a method that will work—but it can be time-consuming, and it isn't free. That method is to use Adobe Acrobat 6 or 7's Select Table tool (Standard edition, $299; Professional edition, $449; www.adobe.com). (Earlier versions of Acrobat for the Mac lack this feature.) Choose Tools: Basic: Selection: Select Table and drag the selection area over the table. Once it's highlighted, control-click on the table and choose the Open Table In Spreadsheet command from the contextual menu. With luck, the selected text will sort itself into the proper cells and you'll be well on your way.

I say "with luck" because this may not occur. If the text in one cell butts up against text in an adjoining cell, the text from both will be placed in a single Excel cell. If this happens, go back to Acrobat, control-click on the selected table again, and choose Save Selected Table As from the contextual menu. In the dialog box, choose Text (Tab Delimited) from the Format pop-up menu, name the file, and click on Save.

Now launch Excel, choose File: Open, find the file you just created, select it, and then click on Open. The Text Import wizard will appear. If cell consolidation is the problem, the second step of the wizard may be your salvation. In the Delimiters area of this window (called Text Import Wizard – Step 2 Of 3), enable the Space option (see "Setting the Table"). This should separate conjoined cells. (You can find out by looking at the Data Preview panel at the bottom of the window.) Click on Next to determine how the data in each column will be formatted (General, Text, or Date), and then click on Finish. The formatting should be better, but it will probably still need tweaking.

Upgrade Options

I would like to upgrade the memory and hard disk on two iMacs—a 400MHz iMac DV and a 600MHz iMac. Can I use PC133 memory chips instead of PC100? And is it true that you can increase the memory limit on the 400MHz iMac from 512MB to 1GB? What options do I have for the hard drives?

Larry Kidd

This is one of those "Teach a man to fish" questions I like so much. I can tell you that, yes, you can use PC133 RAM in your iMac and that, yes, your iMac supports as much as a gigabyte of RAM. But my answer will be more helpful to others if I point you to a couple of good sources for finding all you need to know about Mac RAM upgrades.

When seeking RAM specifications, I visit TechWorks (www.techworks.com). This site allows you to look up RAM configurations for nearly every Mac ever made. Search results will tell you how much memory a particular one can hold, how many RAM slots the computer offers, and the kind of RAM the Mac can use. Oh, and TechWorks will sell that RAM to you, too. Although I'm a satisfied customer, TechWorks is hardly the only memory merchant on earth, and many others offer similar guides (Kingston [www.kingston.com] and Ramjet [www.ramjet.com], for example).

You can put a hard drive as expansive as 120GB into your iMac (we tell you how at macworld.com/0479). If this isn't enough storage, consider using a higher-capacity external FireWire drive. And if you're running OS 9 on this iMac, make sure you're running version 9.2 or later. Earlier versions of OS 9 require third-party drivers before they'll recognize FireWire drives. To read testimonials of other users who have performed these upgrades, I heartily suggest that you visit the Accelerate Your Mac's Drive Compatibility Database page (macworld.com/0480).

Words and Pictures

I own three Apple computers—an eMac, an iBook, and a Mac mini. I've been trying to put text on a picture for my Web site. If iPhoto offers this possibility, I haven't yet discovered it. Will I need another program, such as Photoshop, to be able to add text to a picture?

Lane Loman

There are a multitude of tools that do this less expensively than Adobe Photoshop ($650; www.adobe.com), though it and its $90 sibling, Photoshop Elements, can certainly do the job. Luckily, you already have a tool that can—AppleWorks ($79; www.apple.com/appleworks), an application that ships with all consumer Macs—that is, all but PowerBooks and Power Macs.

To add text to a picture, export one from iPhoto, drag it into an AppleWorks drawing document, and use the program's text tool to add the text you want. Save the file as a JPEG. That's it. People who don't already have AppleWorks can choose from two other inexpensive options: Lemke Software's GraphicConverter ($30; www.lemkesoft.com) and Crescendo Software's Picture Play ($15; www.crescendosw.com).

Missing Packet

At work, I have a Windows PC and a Power Mac. When working with recordable CDs on the PC, I can create folders, drag files, delete files, and eject the CD as if I'm working with a floppy disk. When I take the CD to my Mac, all the files are accessible, but that's it. Is there software available for the Mac that will make the CD act the way it does on the PC?

Mickey Godwin

What you're describing is something called *packet writing*, a process by which you write to a CD-R multiple times. Roxio (www.roxio.com) used to offer a program called DirectCD that added packet-writing capabilities to pre–OS X versions of the Mac operating system. Regrettably, the program has gone the way of the dodo. But you can use Tiger's (and Panther's) Disk Utility (and Jaguar's Disk Copy) to create CD-Rs that you can burn multiple times. Here's how it works in Tiger:

Grab the files you want to put on the disc and place them in a single folder. Launch Disk Utility (in the /Applications/Utilities folder) and choose File: New: Disk Image From Folder (in Panther, select Images: New: Image From Folder). In the resulting dialog box, navigate to the folder you created and click on Image. In the New Image From Folder dialog box that appears, name the image, choose Read-Only from the Image Format pop-up menu, and click on Save.

Select the image in the left column of the Disk Utility dialog box and click on Burn. Insert a blank CD as requested. If you don't see any options at this point, click on the triangle to the right of the Burn Disc In pop-up menu to reveal them. Select the Leave Disc Appendable option to burn the material you chose as a single session. You'll be able to add additional sessions at another time.

Now for the caveats: this method is convenient and free, but discs burned this way don't work on Windows PCs because their format is incompatible with Microsoft's operating system. In order to use your discs on Macs and PCs, you'll need to buy one of the utilities that can burn cross-platform multisession CDs. One of the least expensive is toolsonTEN's burnItAgainSam ($15; macworld.com/0481). It features a simple interface and burns discs in the ISO 9660 Joliet format, which is compatible with both Macs and PCs. I'm also very keen on Roxio's Toast 6

continues

TIP OF THE MONTH

Slicker Tape

If you select View: Show Paper Tape in the Calculator application, you can enter values into the Paper Tape window and click on the Recalculate Totals button to perform the equation. When I noticed this, I wondered if that meant Calculator could work like my graphing calculator. Sure enough, just as I can on my Texas Instruments TI-83+, I can enter equations using not only the symbols +, -, *, and /, but also parentheses—(100*5)/(2.25/1.72), for example. I've found this very interesting while doing my chemistry homework, and I have a feeling that many other Mac-using students out there will, too.

Steven Sokulski

Send your tips to mac911@macworld.com. If we publish yours, you'll receive this dandy mug. All published submissions become the sole property of *Macworld*.

ICON BY PAUL HOWALT; PHOTOGRAPH BY PETER BELANGER

TOOLS OF THE TRADE

Many Answers to Mini Problems

The Mac mini is a different breed of computer—one that not only is more affordable than any previous Apple computer, but also presents unique challenges. And finding ways to meet those challenges can be a challenge in and of itself.

> **Reset the PMU** For example, because the mini is nearly hermetically sealed, how are you supposed to reset the Power Management Unit (PMU)—a chip that, as the name implies, controls the management of the computer's power? If this chip's settings are corrupted, your mini could behave in unexpected ways. Fortunately, Apple describes how to reset the PMU at macworld.com/0483. It's a document every mini owner should tuck away in case of emergency.

> **Fix Video Glitches** And then there are the reports of dim video on VGA displays attached to the mini. Apple offers a small measure of help in its "Troubleshooting: Reduced Brightness with Some VGA Displays and Mac mini" document (macworld.com/0484), but the Web site MacInTouch goes into greater detail (macworld.com/0485).

> **Upgrade with Ease** You say you'd like to upgrade the RAM, hard drive, or optical drive on your mini? *Macworld*'s own Jason Snell describes how to crack open a mini at macworld.com/0486. To see these upgrades in video format, check out the mini-upgrade QuickTime videos offered by Other World Computing at macworld.com/0487.

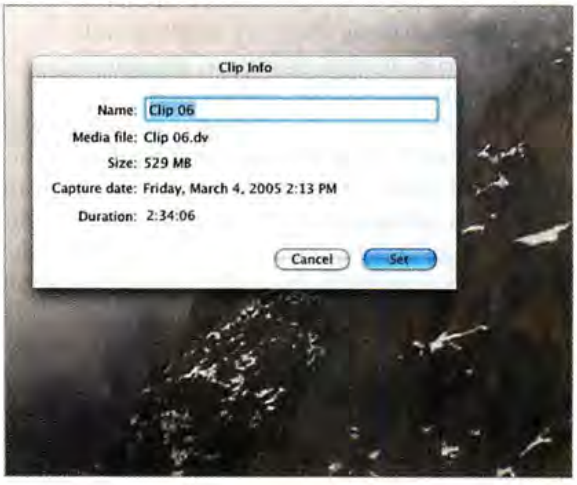
Titanium (4½; macworld.com/0482). At $80 it's not the cheapest utility around, but it's reliable, does far more than simply create multisession CDs, and is less cumbersome than Disk Utility.

Clip Conveyance

I've been trying to copy a movie clip from one iMovie project into another. The problem is that when I try to move just the small clip that I've designated, the whole original moves. What's the proper way to do this?

Martin Goldstein

In all likelihood, when you attempt to move that one small clip, you're actually moving the entire iMovie project. An iMovie project file is a directory that holds the raw material for the movie, including the movie's audio and video clips. To grab the clip you're after, you must dig into that directory and find just the clip you need. Follow these steps:



Clip Job Trying to grab a specific part of your iMovie project? Press ⌘-I to learn the name of the clip.

Open the iMovie project that contains the clip you want. Select that clip in the timeline or the Clips pane and press ⌘-I to bring up the Clip Info dialog box. Find the file's name by looking at the entry next to Media File. It will be something like Clip 06.dv (see "Clip Job").

Now quit iMovie and control-click on the iMovie project you just opened. Choose Show Package Contents from the contextual menu. In the resulting window, open the Media folder and look for the clip with the right name (Clip 06.dv in my example). Option-drag this clip to the desktop to make a copy of it. Now launch iMovie and drag the clip into the iMovie window of your new project to import it.

Readdressing Address Book

My iBook was recently stolen. When I replaced it with another a few weeks later, I naturally wanted to restore my address and iCal information. I backed up my Library folder from my Home folder. Can I recover my addresses from that folder?

Samuel T. Ocean

To find your addresses, open up that Library folder you backed up and peer into the Application Support folder. Locate the AddressBook folder inside, and copy it to the same location on your new iBook. Doing so will replace the AddressBook folder on your iBook that contains no useful information (unless, of course, you've added contacts on the new iBook) with the AddressBook folder that contains all your contacts.

Accessorizing iCal

Is there an automatic way to put holidays and moon phases into iCal?

Jason Kamps

With the help of iCal subscriptions, yes. Choose Calendar: Subscribe and enter the calendar's URL in the sheet that appears. I use the site iCalShare (icalshare.com) to find calendars. The site offers more than 2,000, from the schedules of pro sports teams to important dates in the history of anarchy. The last time I looked, iCalShare listed 228 holiday calendars and enough moon-phase calendars to bring out the werewolf in anyone.

To subscribe to an iCalShare calendar, find one you like and click on the Subscribe link associated with it; iCal will launch and add the calendar. If you get tired of a particular calendar, just click on it in iCal's Calendar pane and delete it. □

Contributing Editor CHRISTOPHER BREEN is the editor in chief of Playlistmag.com and the author of *Secrets of the iPod and iTunes*, fifth edition (Peachpit Press, 2005).

ICON BY PAUL HOWALT

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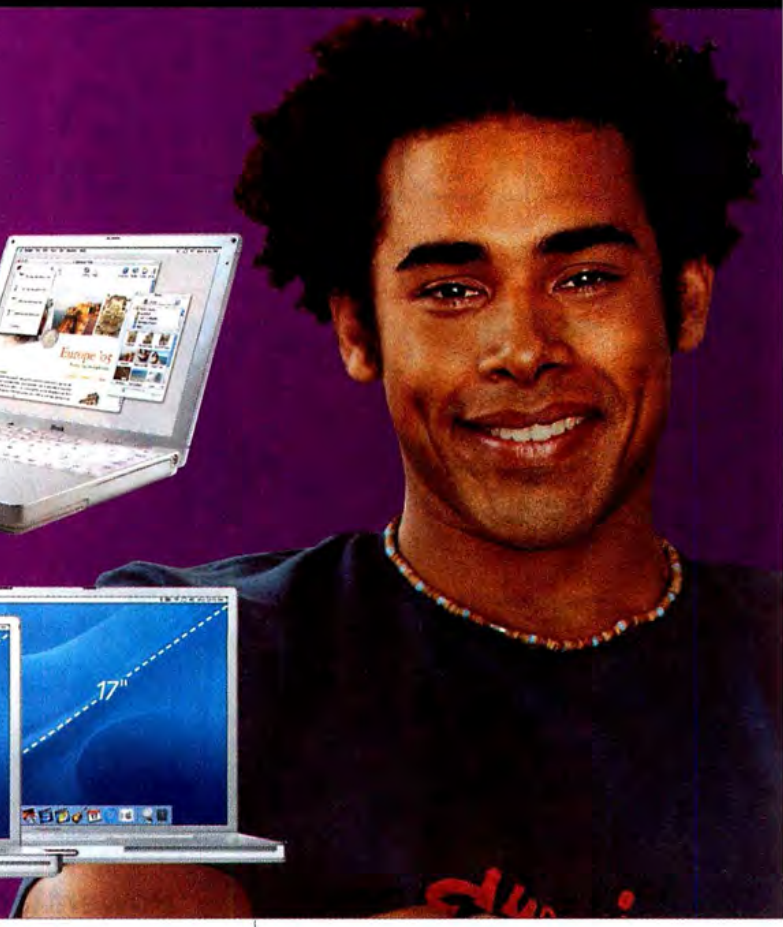

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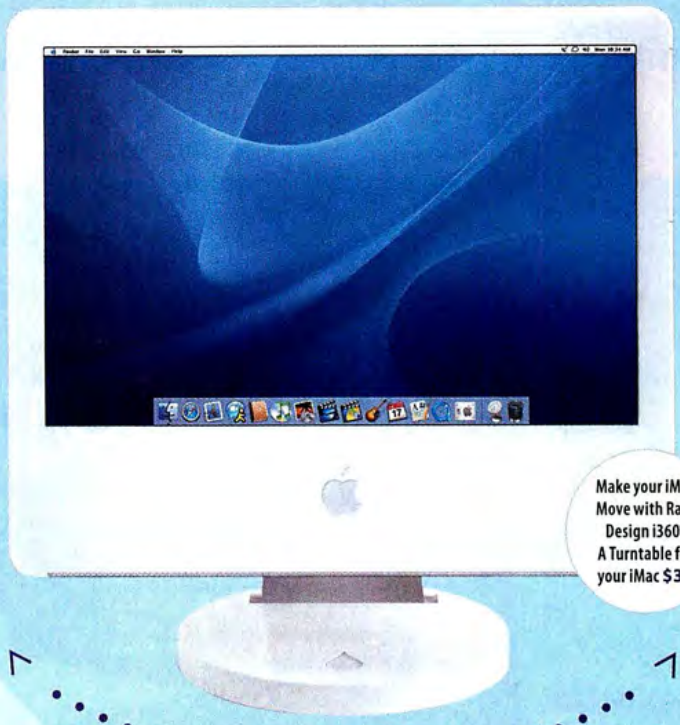

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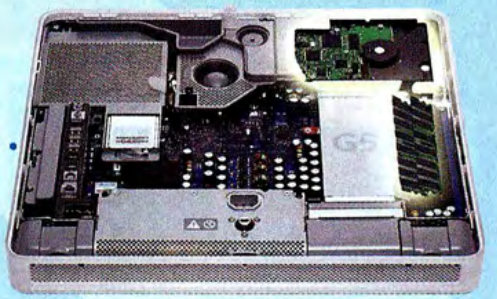

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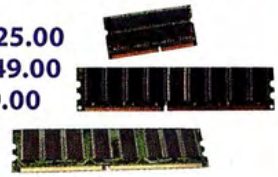

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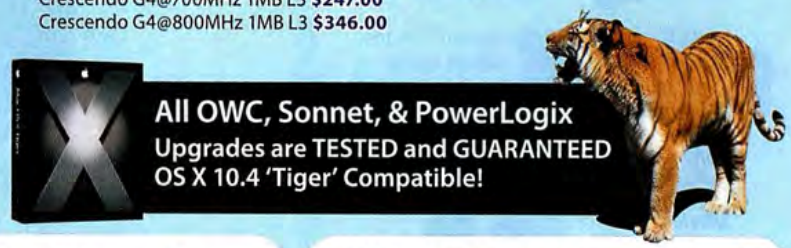

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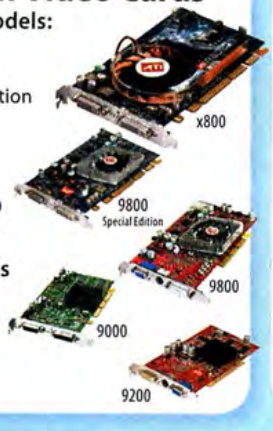

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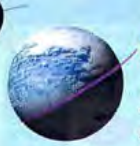

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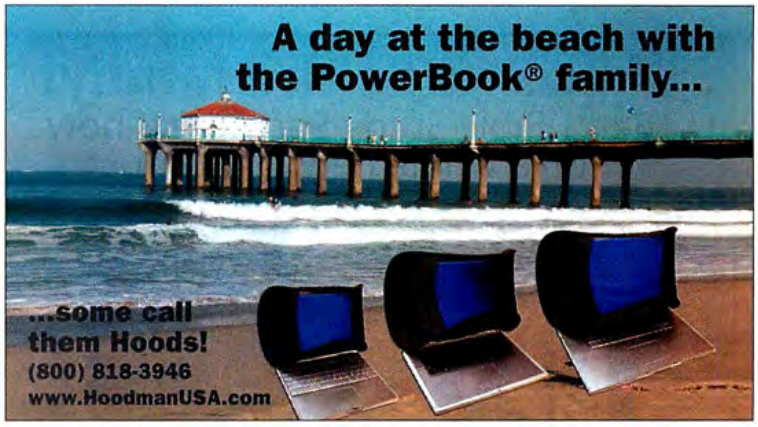

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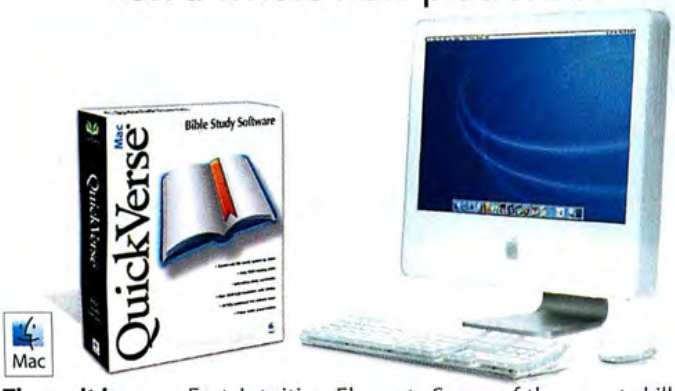

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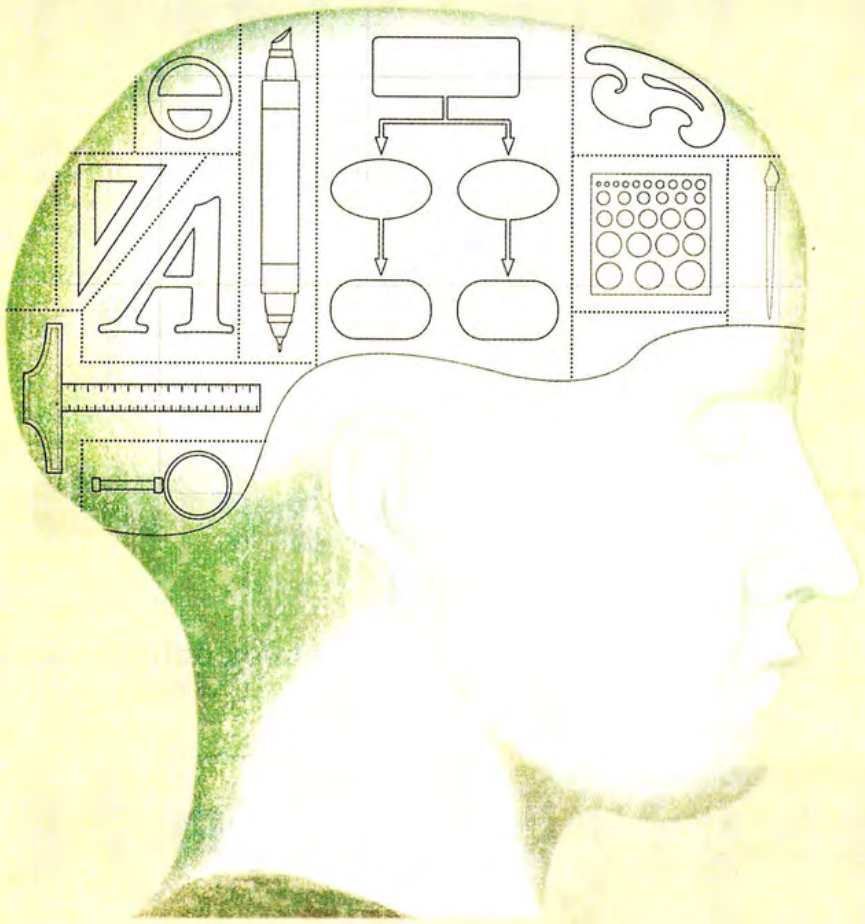

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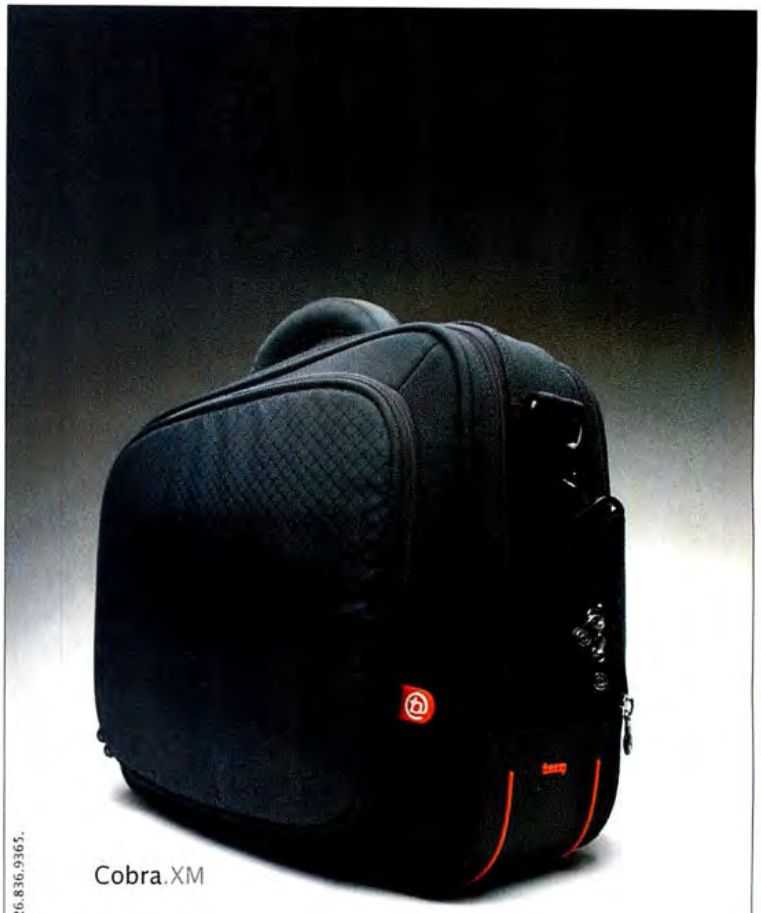

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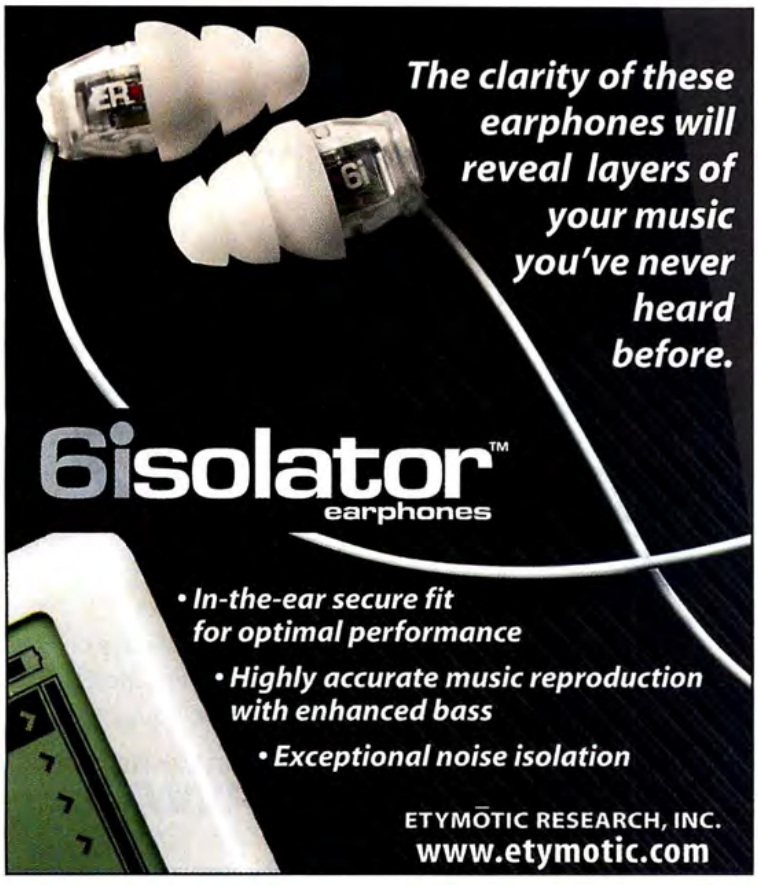

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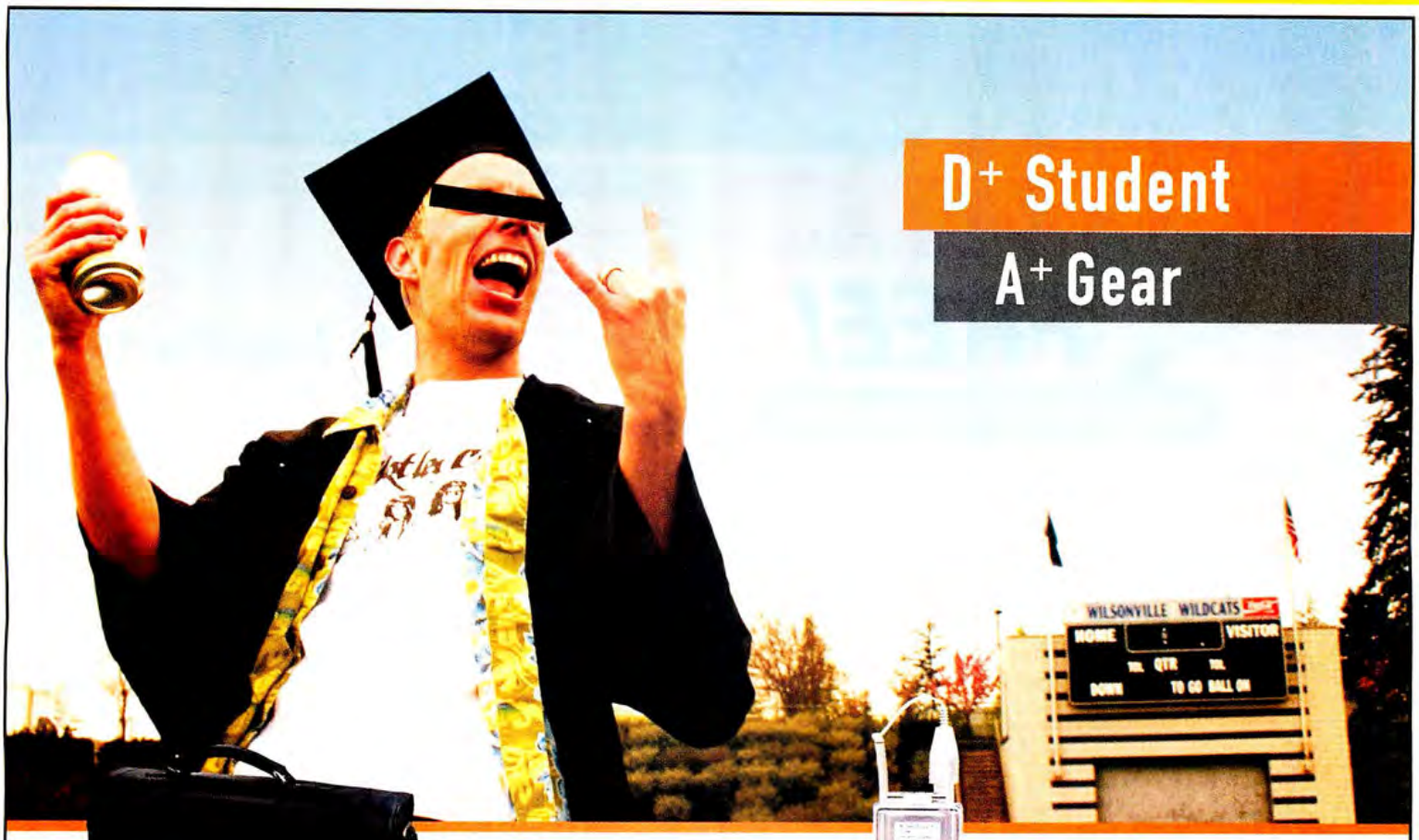

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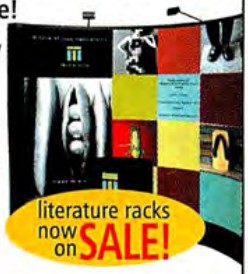

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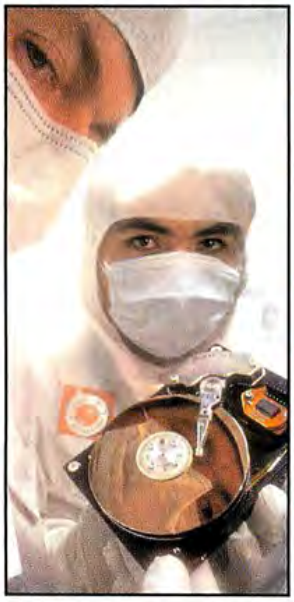

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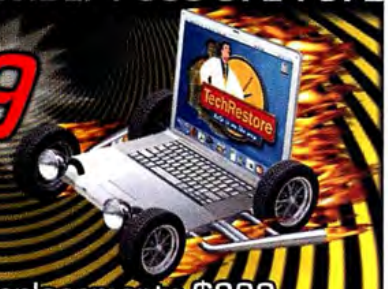

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Hot Stuff

Our Favorite New Stuff

FROM THE EDITORS OF MACWORLD

COLORWARE PAINTED MAC MINI

The Mac mini looks great just as Apple ships it, but if you'd like a bit more flash, ColorWare will paint your mini one of 20 hues—including Dragon, Mystique, Lightning, and Ferrari—for $99. (A Caution model is shown here.) You can color-match your keyboard and mouse for an additional $49. Or if you're in the market for a new mini, you can buy a precolored one from ColorWare (www.colorwarepc.com).—DAN FRAKES

VNC Support in Tiger

With Tiger, Apple has built support for Virtual Network Computing (VNC) right into OS X. VNC lets you view a remote Mac's screen and control the machine—a really useful feature for those of us who run a server or need to operate a Mac from afar. To enable VNC, start Remote Desktop via the Sharing preference pane, click on Access Privileges, select the VNC option, and give yourself a VNC password. Then use a free VNC client such as Chicken of the VNC (sourceforge.net/projects/cotvnc) to connect. Although Apple's Remote Desktop is a lot slicker, it also costs $300—not appropriate for everyone's budget (www.apple.com).—JASON SNELL

Comic Life

Within a few minutes of downloading Plasq's $25 Comic Life, there I was, making comic books out of pictures in my iPhoto library. I was choosing thought bubbles, captions, and layouts, and changing fonts, colors, and templates. My vacation snaps had a life I'd never imagined for them; the photos of my cousin's daughter were even more amusing; and images of my brother started talking back, just like the real article. I suddenly realized that my cheeks hurt from so much smiling—I hadn't had that much fun with a program since the release of iLife '05 (www.plasq.com).—JENNIFER BERGER

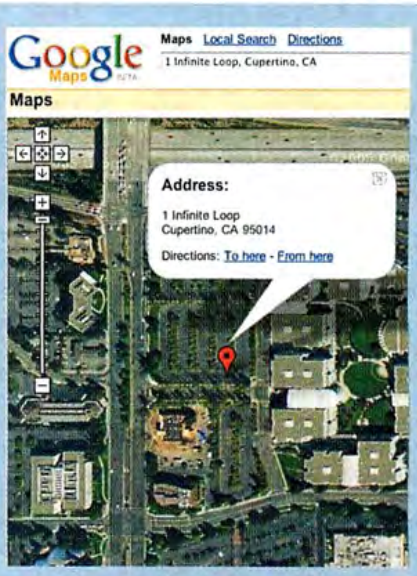
WHAT'S HOT

Brought to you by John Moltz of the Crazy Apple Rumors Site (www.crazyapplerumors.com)

1. **Amazon accidentally posts specifications for the new Power Mac G5s before Apple's announcement.** *An angry Steve Jobs rates the information as "Not helpful."*
2. **Apple ships Tiger, which includes more than 200 new features.** *Meanwhile, Microsoft announces that it will begin final work on Longhorn—just as soon as its copy of Tiger arrives in the mail.*
3. **At Apple's annual meeting, Steve Jobs faces off against an environmental group concerned about recycling computer parts.** *Later, Jobs was further chastised at home for not taking out the trash.*
4. **Apple releases Power Macs, iMacs, and eMacs with double-layer DVD burners.** *They also make a mean grilled cheese sandwich. But, um, only once.*

MAC MINI SLEEVECASE

The Mac mini's size—one of its coolest qualities—makes it easily portable. If you carry yours from place to place, you'll want to protect it. I use WaterField Designs' $39 SleeveCase (with shoulder strap, $47): this ballistic nylon case has sturdy neoprene padding to protect your mini from bumps and scrapes. It fits into a larger bag or stands on its own (www.sfbags.com).—DAN FRAKES



Google Satellite Maps

Plenty of sites can display a map that shows a location of your choosing. But Google Maps goes one better. Enter an address—for example, that of Apple's headquarters—and click on the Search button. "Big whoop," you say, "it's a map." OK, but go ahead and click on the Satellite link in the upper right corner—and now you can see that address as it looks from space. If you want a closer look at the neighborhood, slide the zoom bar (in the upper left corner of the screen) to the top. (You've probably never been this close to 1 Infinite Loop before.) It's sort of like traveling the country without ever leaving your desk (maps.google.com).—DAN MILLER

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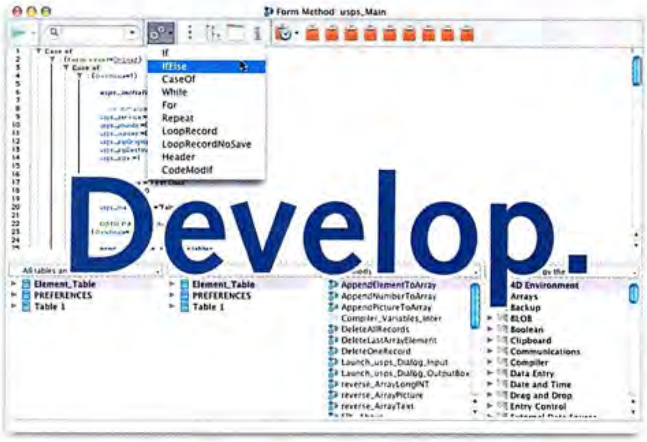

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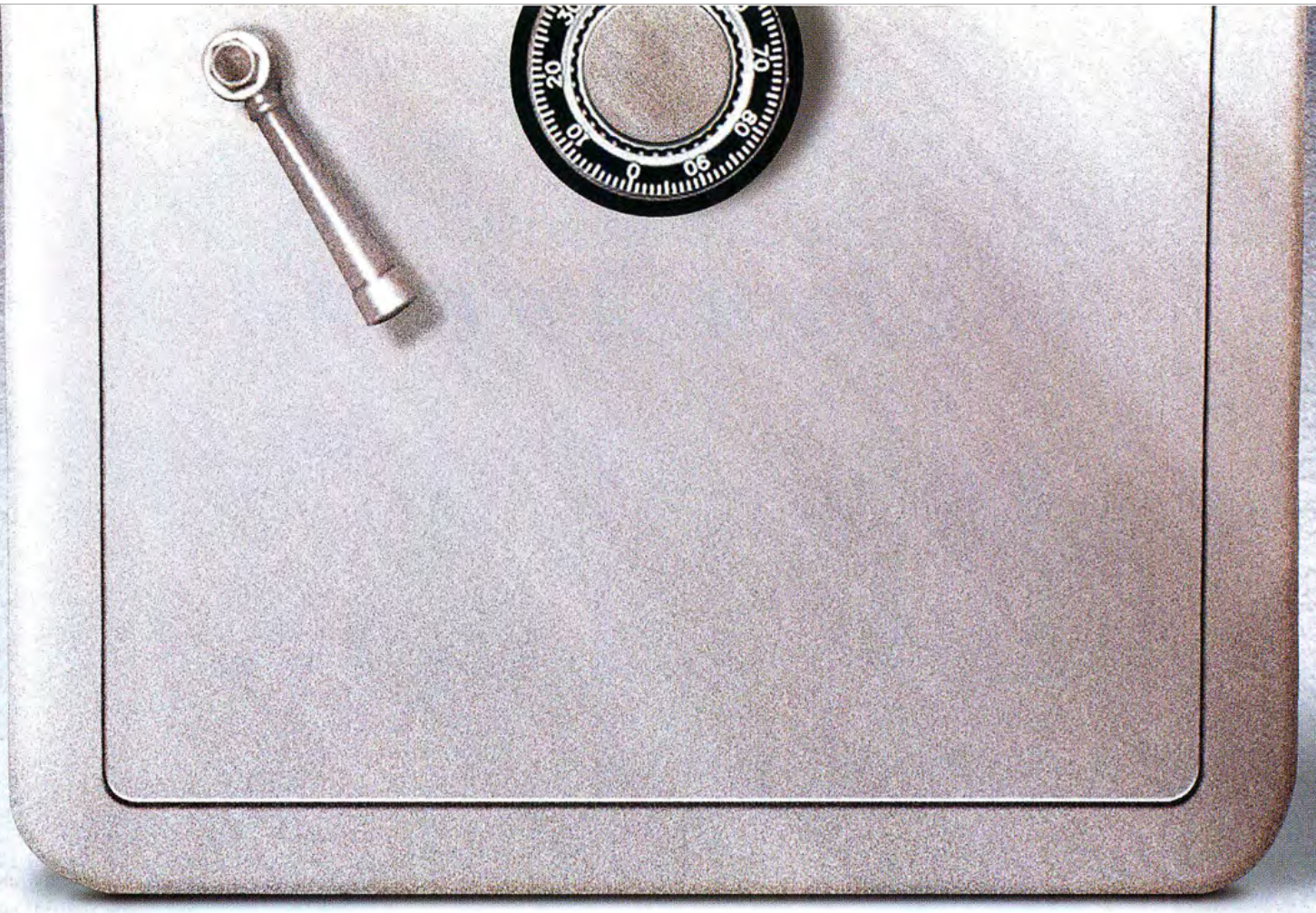

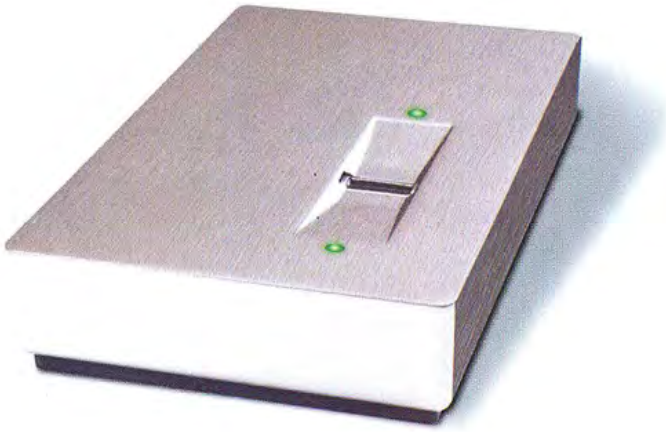

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